

2. Development of reading skills during the course

The results of eight comprehension tests were taken as the basis for the measurement of individual learning progress. These comprehension tests were implemented at regular intervals throughout the course and assessed by the participants themselves. They provide information relating to reading speed (words per minute/WPM) and reading comprehension. The product of these two factors is 'Effective Reading Rate (ERR). Effective Reading Rate is the decisive criterion for the assessment of individual progress.

2.1 Description of the tests

In the comprehension tests, the participants are required to read an unfamiliar text. The eight texts are of medium difficulty and between 1000 and 2000 words in length. The degree of difficulty of the texts is defined in terms of sentence length (words per sentence) and the number of words with more than two syllables.

Before the tests take place, the instructor explains to the participants that texts should be read quickly and, at the same time, with the aim of good comprehension. Then, the instructor gives the signal to start reading and activates a stop watch. After completing the test, the participants note the total number of seconds that were required to read the text on the Course Progress Record Card (see Appendix). Using a conversion table, they calculate their reading speed in words per minute. This figure denotes reading speed in words per minute (WPM).

Then, the participants are asked to answer ten questions on the content of the text. These are multiple choice questions with up to five optional answers, only one of which is correct. The test subjects enter the letters that they believe represent the correct answers on their Course Progress Record Card. Afterwards, they check their answers against an answer sheet. The number of correct answers is noted on the record cards as percentage of comprehension ("Comp %"). This percentage is then multiplied by the WPM rate to provide the Effective Reading Rate (ERR).

(Since answering ten questions is not necessarily equal to 100% comprehension, we refer to the 'number of correct answers' in the following. ERR is measured by multiplying WPM by the number of correct answers and dividing the product by 10).

The following comments apply to the test methods in general and the comprehension test specifically.

1. The test is suitable for assessing the *reading techniques* that are learned in the course, and the degree of efficiency of these techniques. No conclusions can be drawn from the test as regards the time-saving and comprehension-enhancing effect of reading *strategies*. These strategies include the specific selection of texts, the establishment of a thematic connection, the advance clarification of the cognitive objectives of reading matter, the creation of an environment that is conducive to concentration, the use of memory aids and similar strategies. These strategies are

more likely to prove efficient when large volumes of texts have to be read. This kind of reading is not suitable for answering questions about the texts that were not known at the time of reading (which is the case in comprehension tests). Rather, its purpose is to satisfy individual information requirements.

Consequently, the positive influence of the factor of 'reading strategy' must always be taken into consideration in addition to the measurable effect of the reading techniques. The same applies in the evaluation of the final test results (Section 4).

2. The ten questions mainly relate to details contained in the text, and not to its core statements. Phrases that are contained in the text are often repeated in the wording of the questions and answers. The comprehension test therefore enables an assessment of the reader's ability to remember the text and to translate the information read into personal knowledge. This process does not correspond to the principle of the Improved Reading teaching method, which is based on the postulate that the reading process is not oriented on word decoding, but on meaning identification.

However, the fact that the comprehension tests can be used to assess the reader's assimilation of details has the advantage that answering the questions is clearly and exclusively dependent on the content of the texts. It is not a matter of text interpretation and the questions cannot be answered on the basis of previous knowledge. The questions must relate to the content of the texts, otherwise the answers are a game of pure chance.

3. The eight texts are only comparable to a limited extent in terms of content. Five texts relate to the subject of 'reading' (Tests 1,2,6,7 and 8), three texts related to subjects that have nothing to do with the course (Tests 3, 4 and 5) and two texts (Tests 4 and 5) differ from the others because they are fictional and not factual.

Test 1 "Concentration"

Test 2 "The Value and Importance of Reading"

Test 3 "Freighters of Filth"

Test 4 "Nightmare in the Stratosphere"

Test 5 "The Shark Cave"

Test 6 "Critical and Creative Reading"

Test 7 "Words, Words, Words"

Test 8 "Rate Variation"

The reading process model on which the course concept is based leads to the expectation that the course participants will find the texts on the subject of reading easier since they have dealt with the subject in detail and are able to read the texts with structured expectations.

However, the potential influence of the different subjects on the test results is relativised by the type of comprehension tests used. The questions relate to details that cannot be answered on the basis of knowledge of the subject of 'reading' that is acquired during the course. In order to approximately establish the influence of the subject on the test results, the number of correct answers to each test is provided below (diagrams 15-22). If the influence of the selected

subjects is strong, it is to be expected that the number of questions answered correctly on the subject of 'reading' will be higher than those answered correctly on other subjects.

The order in which the texts were read corresponded to the sequence of the comprehension tests. The replacement of texts on the subject of 'reading' would eliminate any distorting influence of subject selection on the measured results.

1 Improved Reading Centres International, Academic Position Paper of The Advanced Reading Skills Course, o.O. 2000.

2.2 Results of the comprehension tests

The results of the comprehension tests are shown in the following diagrams and tables.

The **tables** each show the average words per minute (WPM) and Effective Reading Rate (ERR) attained by each person at the beginning and end of the course. In the assessment of these values at the beginning of the course, it is necessary to take into account that the course participants are taking their first comprehension test and are not yet familiar with this type of test. The individual results at the end of the course are generally comparable with the values measured in the last comprehension test. However, if individual results in the last three tests deviate considerably, or if they deteriorate rather than improve, WPM and ERR are calculated as the average of the last two and generally the last three measured results. WPM and ERR were measured in this way at the end of the course in 23 cases.

The average improvement factors denote the average improvement of individual Effective Reading Rate (ERR).

1st course: 14/15 December 2001, 5 participants. Average improvement factor: 2.8.

Table 7: WPM and Effective Reading Rate, 14/15 December

Average for all participants	Start of course	End of course
WPM	227.6	438.6
ERR	163.6	385.2

2nd course: 23/24 February 2002, 11 participants. Average improvement factor: 4.13. (One participant did not attend the entire course)

Table 8: WPM and Effective Reading Rate, 23/24 February 2002

Average for all participants	Start of course	End of course
WPM	223.5	542.2
ERR	136.5	470.4

3rd course: 16/17 March 2002, 15 participants. Average improvement factor: 3.58. (Two participants did not finish the course)

Table 9: WPM and Effective Reading Rate, 16/17 March 2002

Average for all participants	Start of course	End of course
WPM	217.3	540.5
ERR	126.9	425.3

4th course: 22/23 March 2002, 15 participants. Average improvement factor: 2.85.

Table 10: WPM and Effective Reading Rate, 22/23 February 2002

Average for all participants	Start of course	End of course
WPM	198.1	472.1
ERR	127.9	354.6

5th course: 26/27 April 2002, 9 participants. Average improvement factor: 3.94.

Table 11: WPM and Effective Reading Rate, 26/27 April 2002

Average for all participants	Start of course	End of course
WPM	170.6	479.7
ERR	100.8	358.9

6th course: 25/26 May 2002, 10 participants. Average improvement factor: 3.1.

Table 12: WPM and Effective Reading Rate, 25/26 April 2002

Average for all participants	Start of course	End of course
WPM	200.1	470.1
ERR	135.6	388.7

7th course: 28/29 June 2002, 10 participants. Average improvement factor: 3.81.
(One participant did not finish the course)

Table 13: WPM and Effective Reading Rate, 28/29 June 2002

Average for all participants	Start of course	End of course
WPM	186.6	357.2
ERR	109.3	350.6

8th course: 27/28 July 2002, 12 participants. Average improvement factor: 2.57.
(Two participants did not finish the course)

Table 14: WPM and Effective Reading Rate, 27/28 July 2002

Average for all participants	Start of course	End of course
WPM	183.3	434.3
ERR	136.4	327.3

At the beginning of the course, WPM rates were between approx. 170 and 220, and ERR was between 100 and 160. At the end of the course, average WPM in the eight courses was between 357 and 542, and the ERR was between 327 and 470.

WPM and ERR increased in all eight courses. The average improvement factor in all eight courses is 3.38.

The **diagrams** show

1. the development of reading speed (WPM) (Diagrams 7-14)
2. the number of correct answers in the eight tests (Diagrams 15-22)
3. the development of Effective Reading Rate (Diagrams 23-30)

in the individual courses. Underlining and discontinued lines show that the tests were not taken. In some cases, the values measured exceeded the scale. This was accepted in order to enable a comparison of the charts.

The diagrams showing the number of correct answers (Diagrams 15-22) provide information about whether the participants found it easier to read texts on the subject of 'reading' than those on other subjects. To provide a better overview, the comprehension rates of participants who did not complete all comprehension tests are not included in the diagrams. (The scores are shown on page 36).

Diagram 7: Comprehension Tests 14/15 December 2001 - WPM

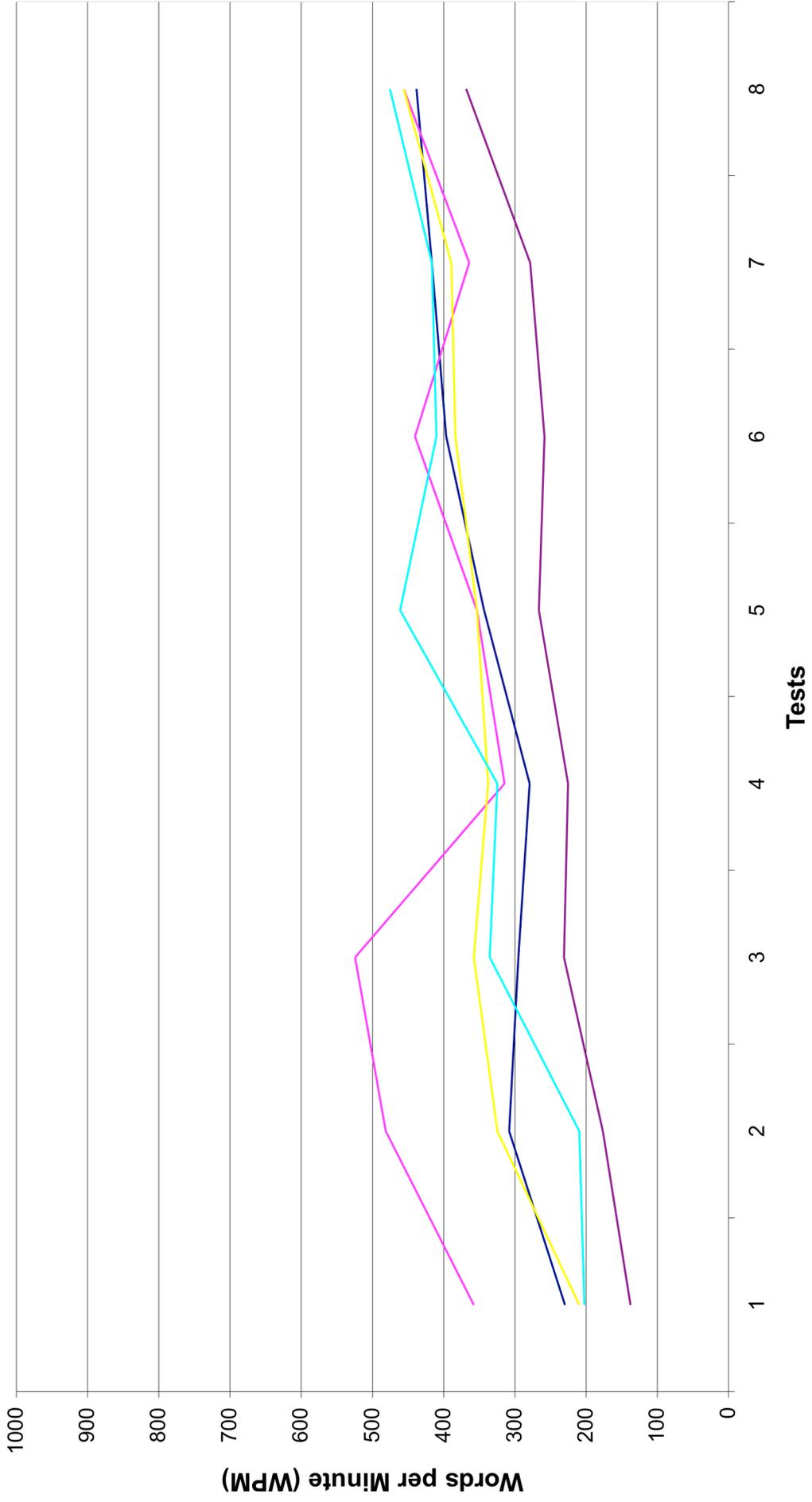


Diagram 9: Comprehension Tests 16/17 March - WPM

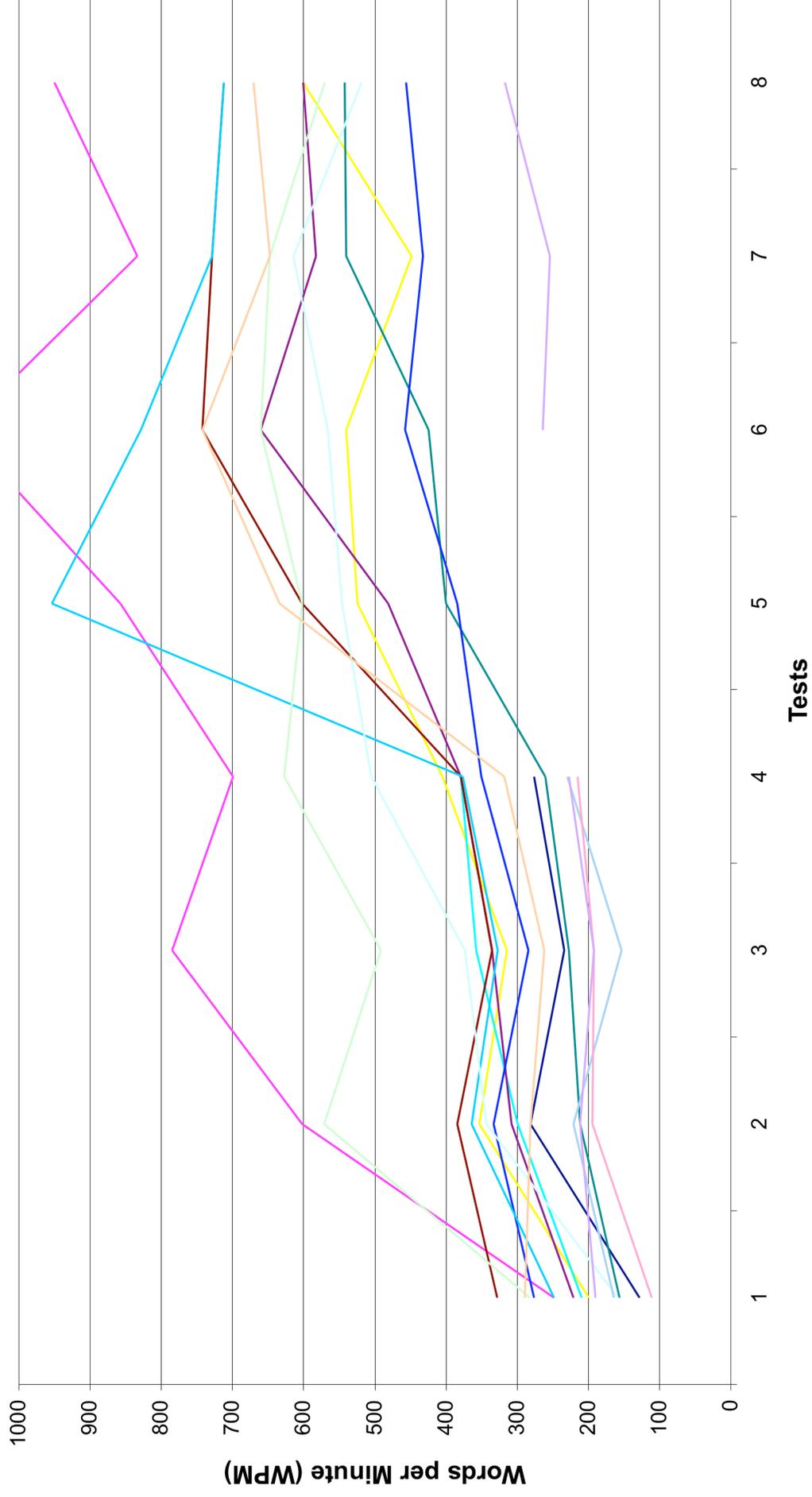


Diagram 11: Comprehension Tests 26/27 April 2002 - WPM

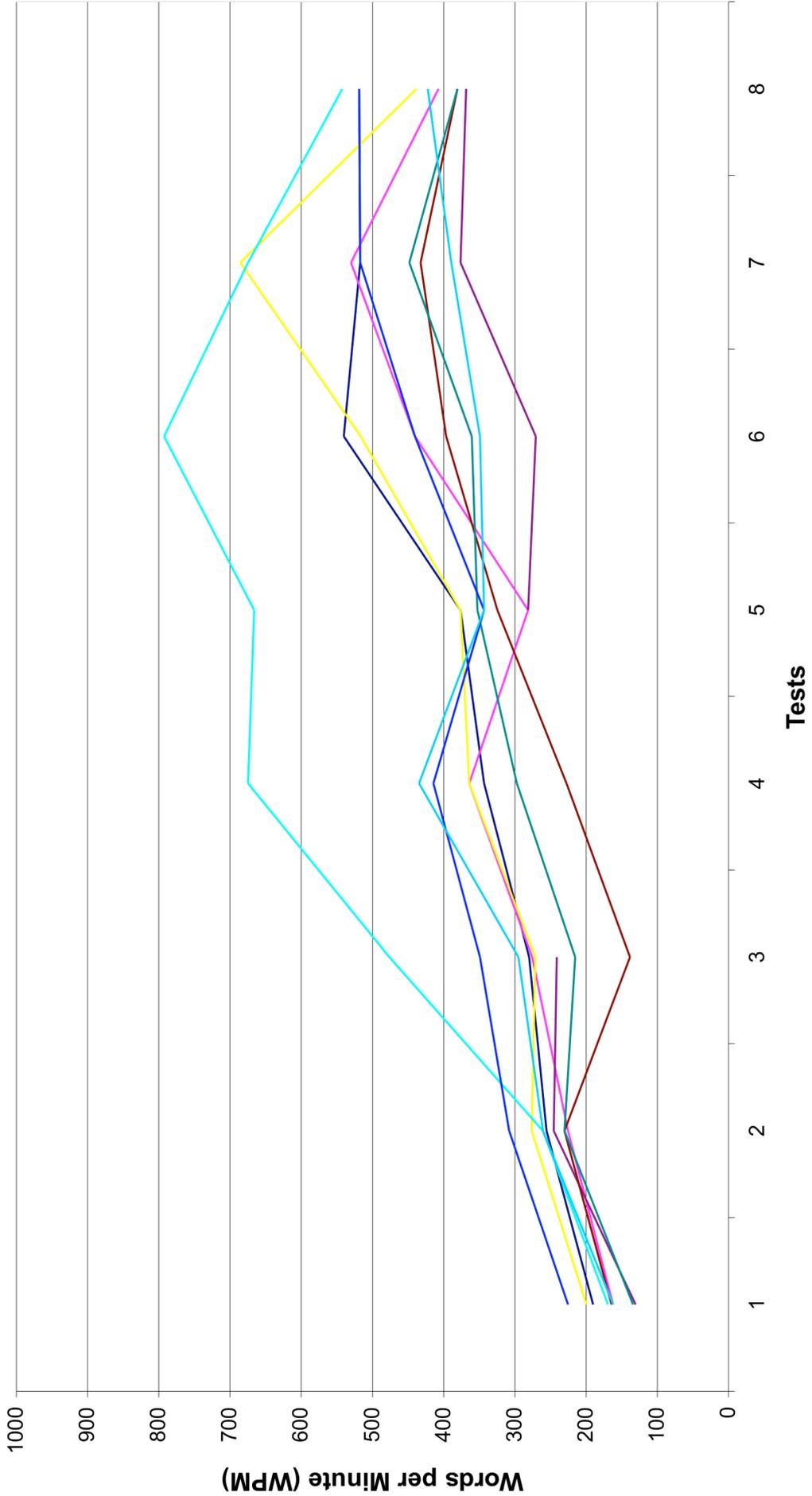


Diagram 12: Comprehension Tests 25/26 May 2002 - WPM

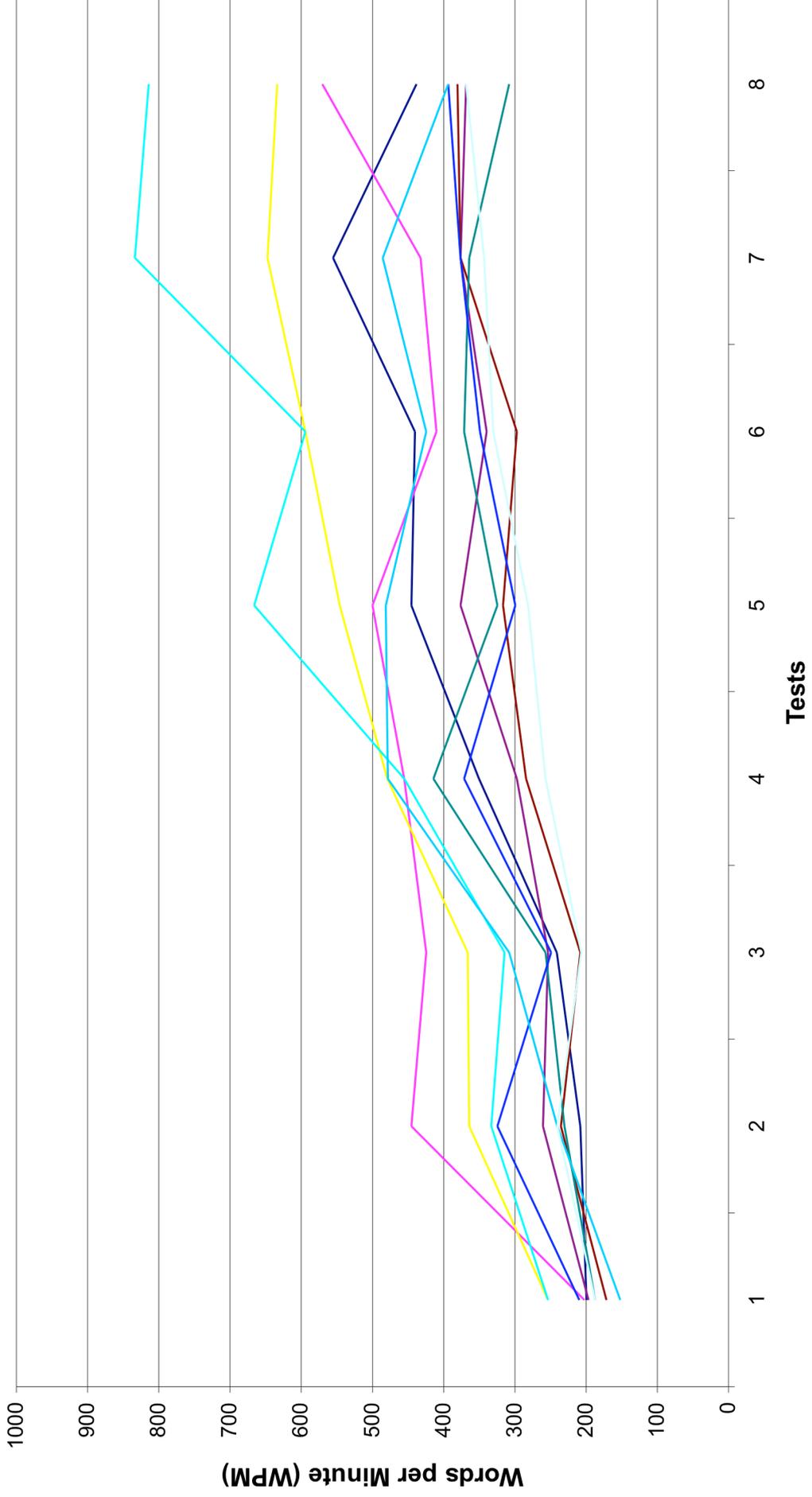
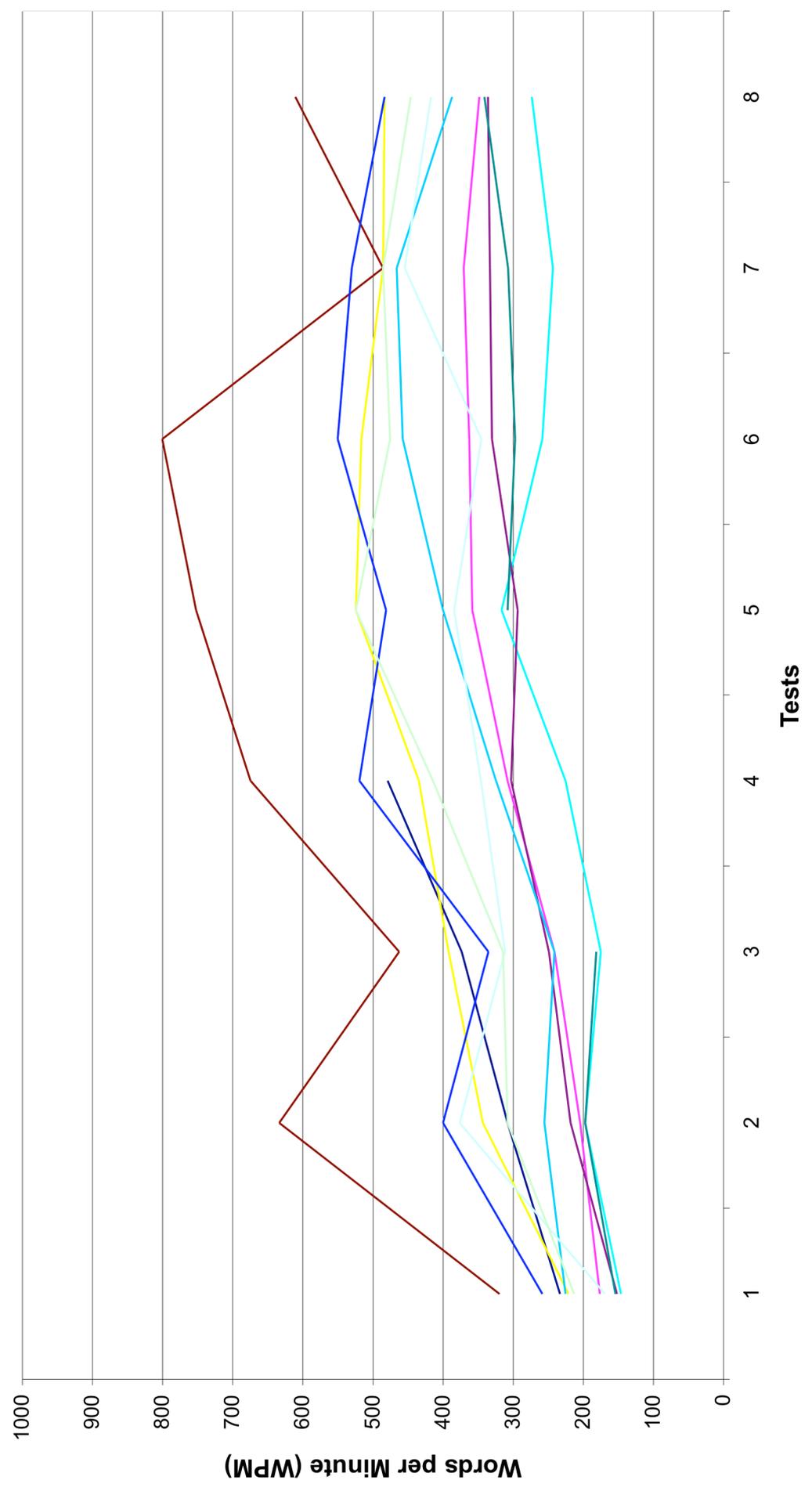
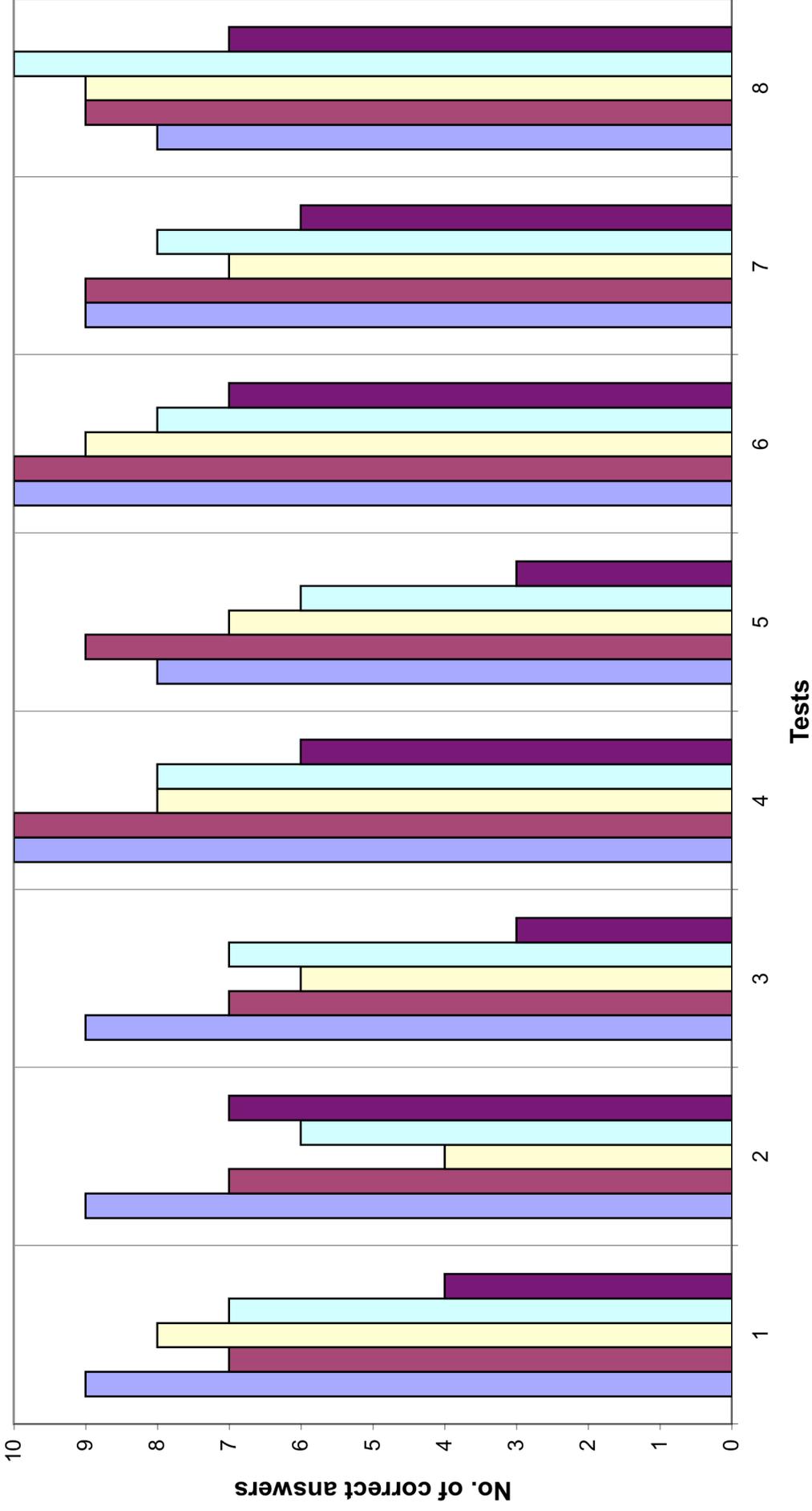


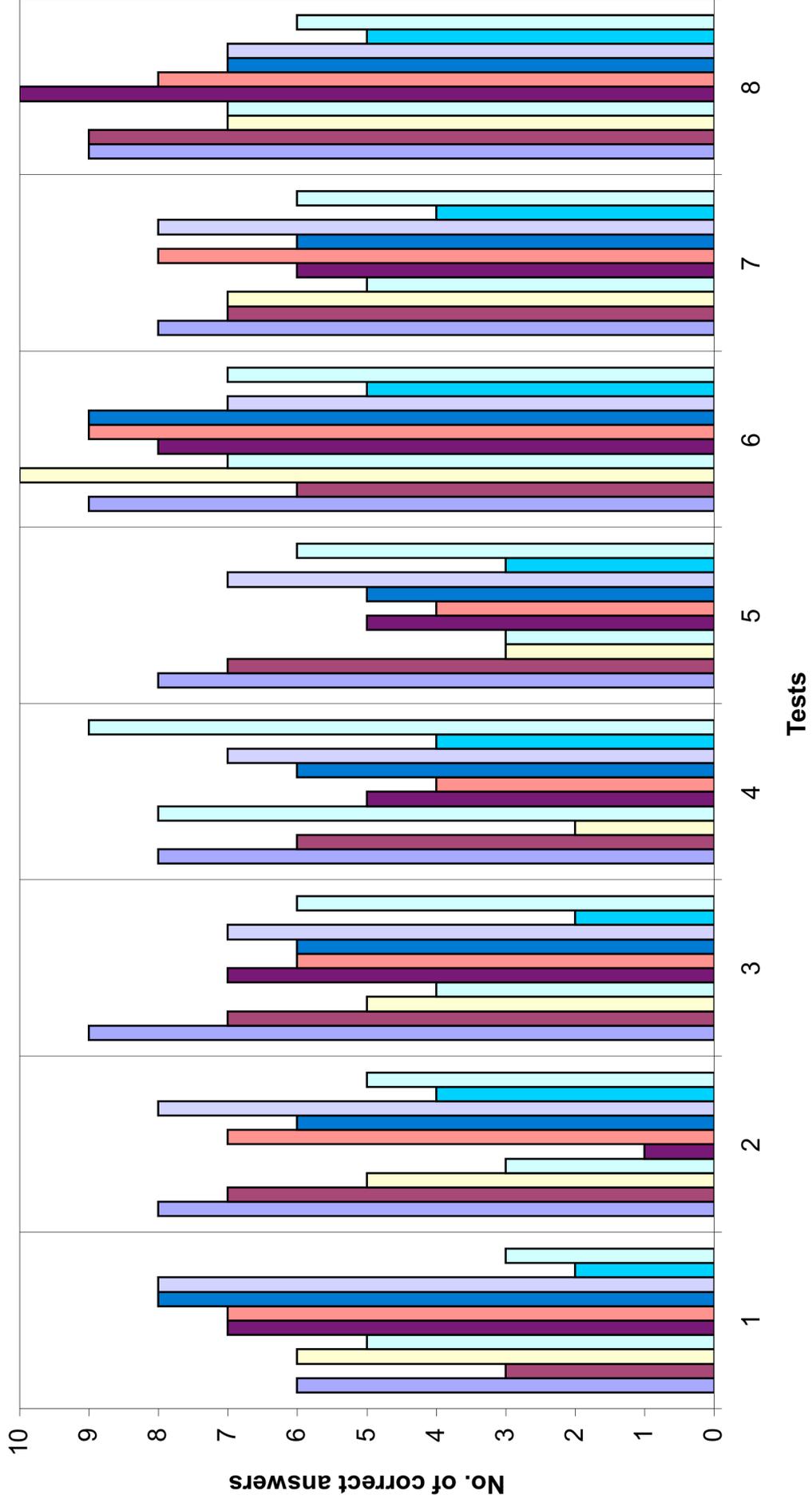
Diagram 14: Comprehension Tests 27/28 July 2002 - WPM



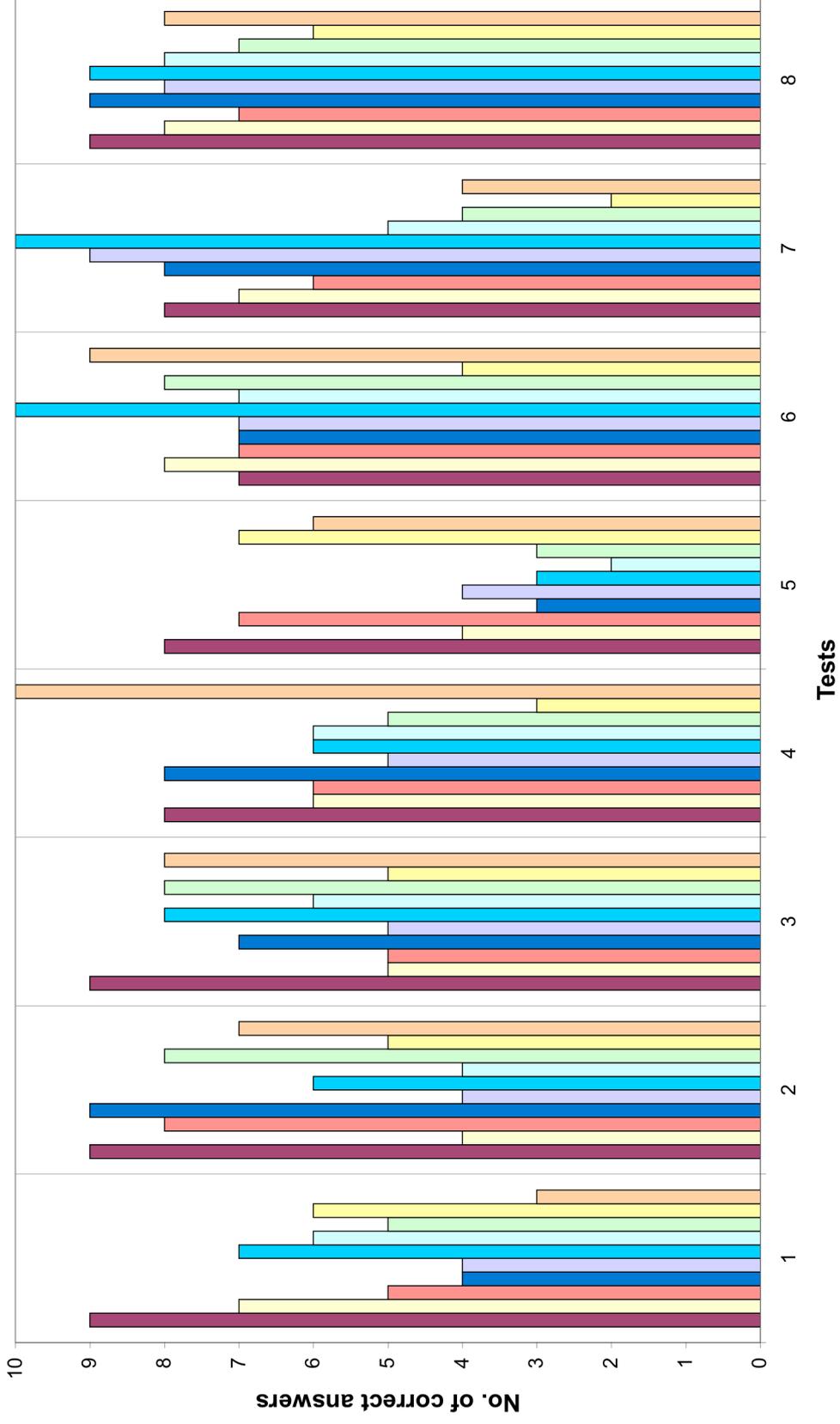
Comprehension Tests 14/15 December 2001 - Comprehension



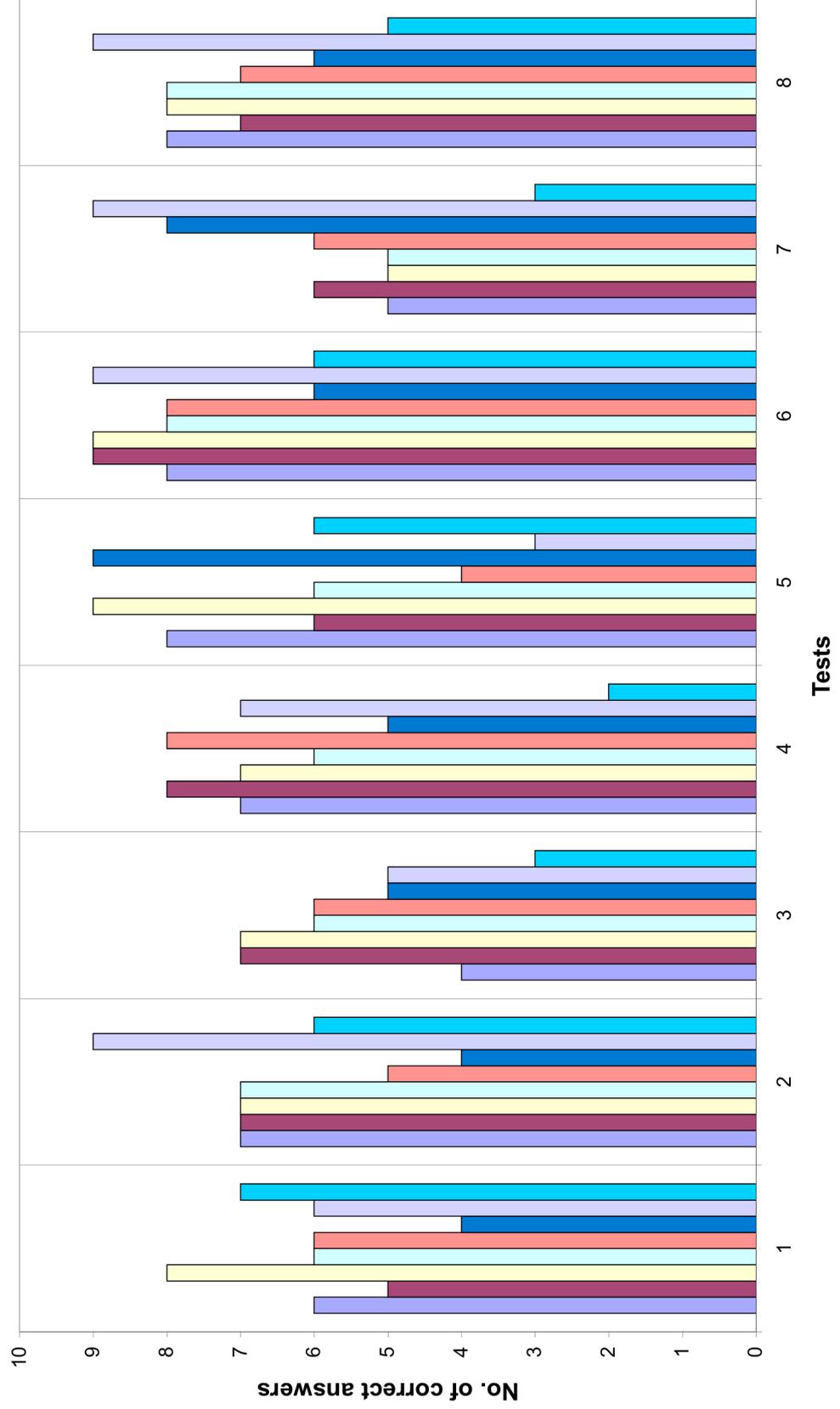
Comprehension Tests 22/23 February 2002 - Comprehension



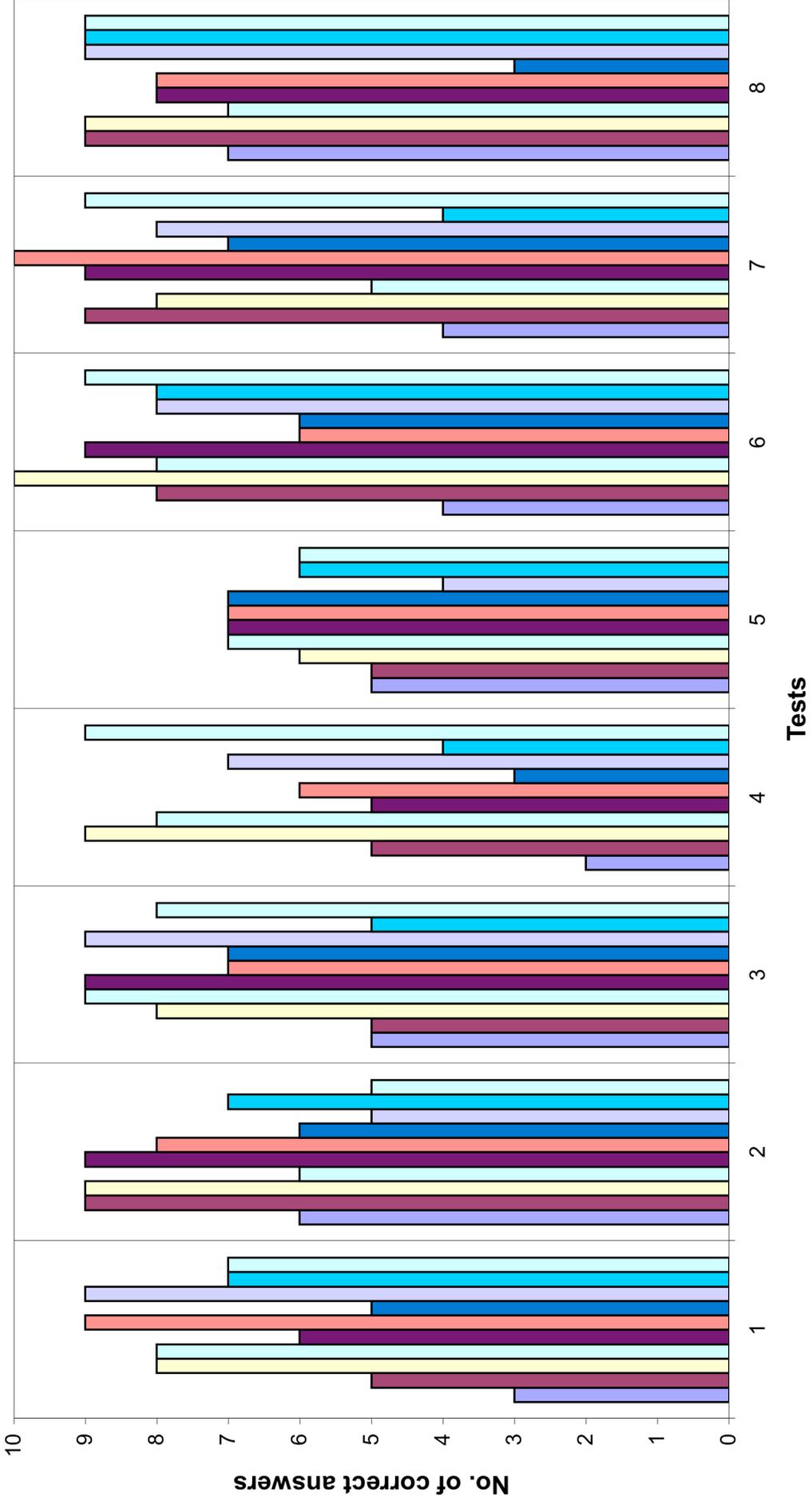
Comprehension Tests 16/17 March - Comprehension



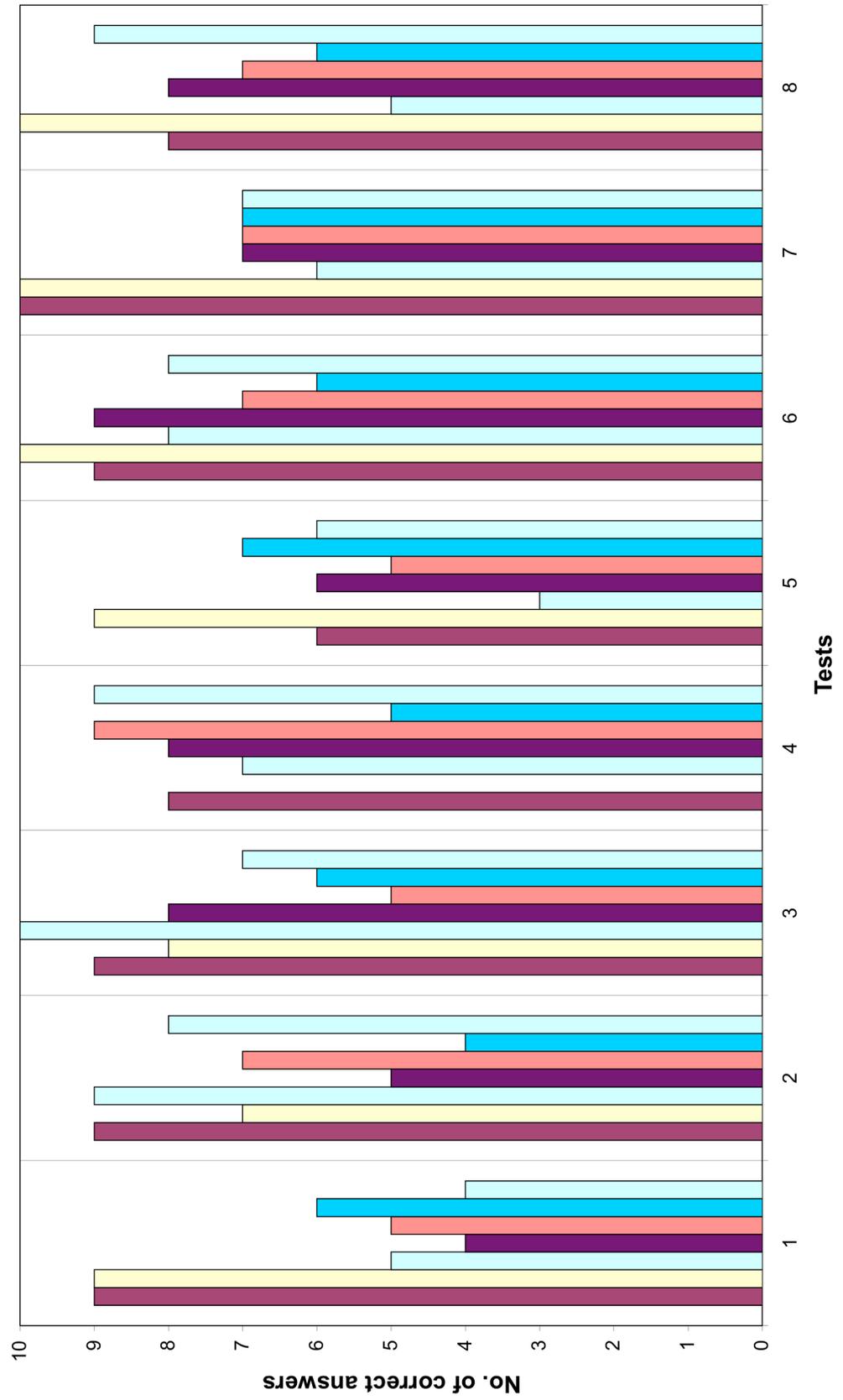
Comprehension Tests 26/27 April 2002 - Comprehension



Comprehension Tests 25/26 May 2002 - Comprehension



Comprehension Tests 28/29 June 2002 - Comprehension



Comprehension Tests 27/28 July 2002 - Comprehension

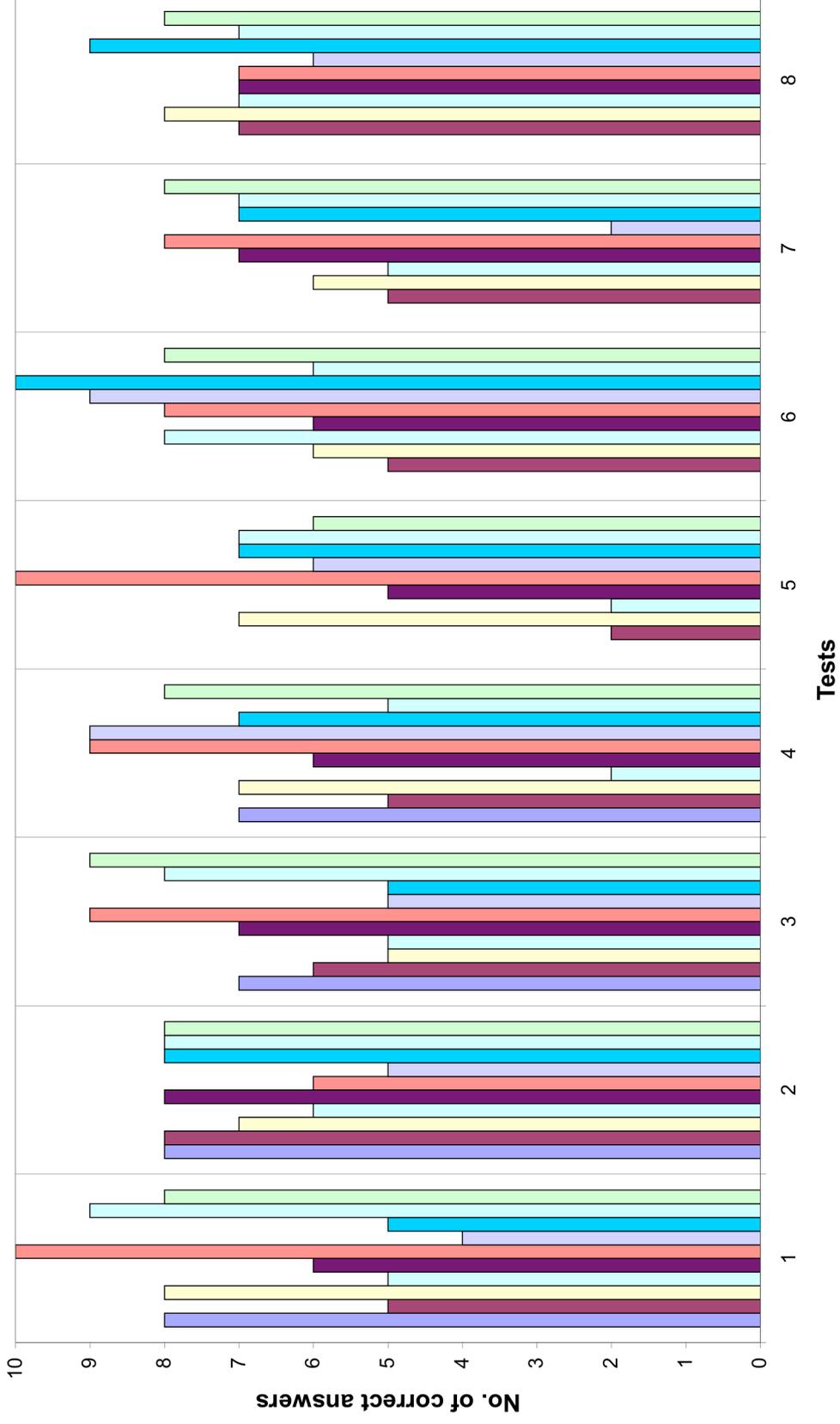


Diagram 23: Comprehension Tests 14/15 December 2001 - Effective Reading Rate

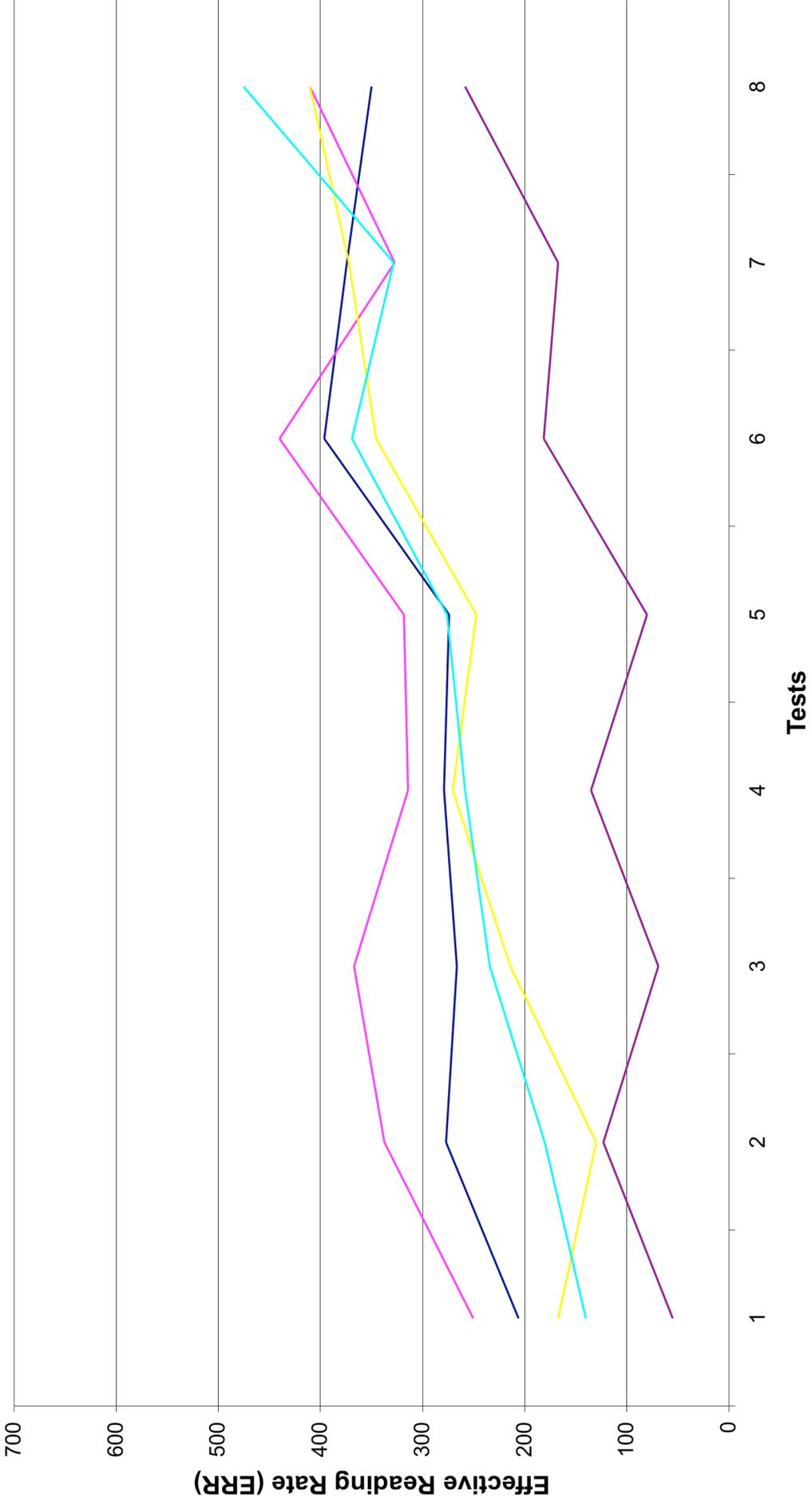


Diagram 24: Comprehension Tests 23/24 February 2002 - Effective Reading Rate

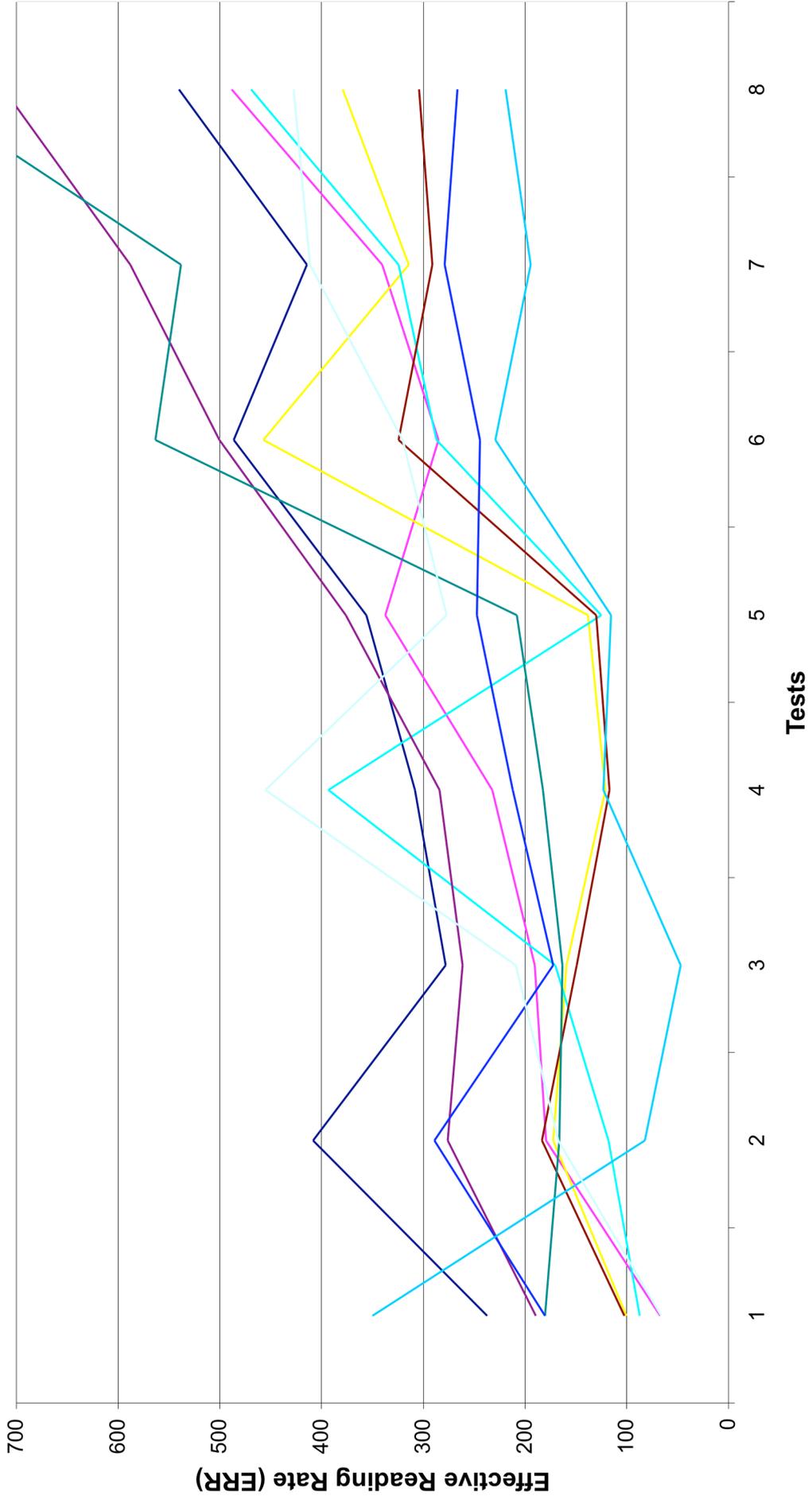


Diagram 25: Comprehension Tests 16/17 March - Effective Reading Rate

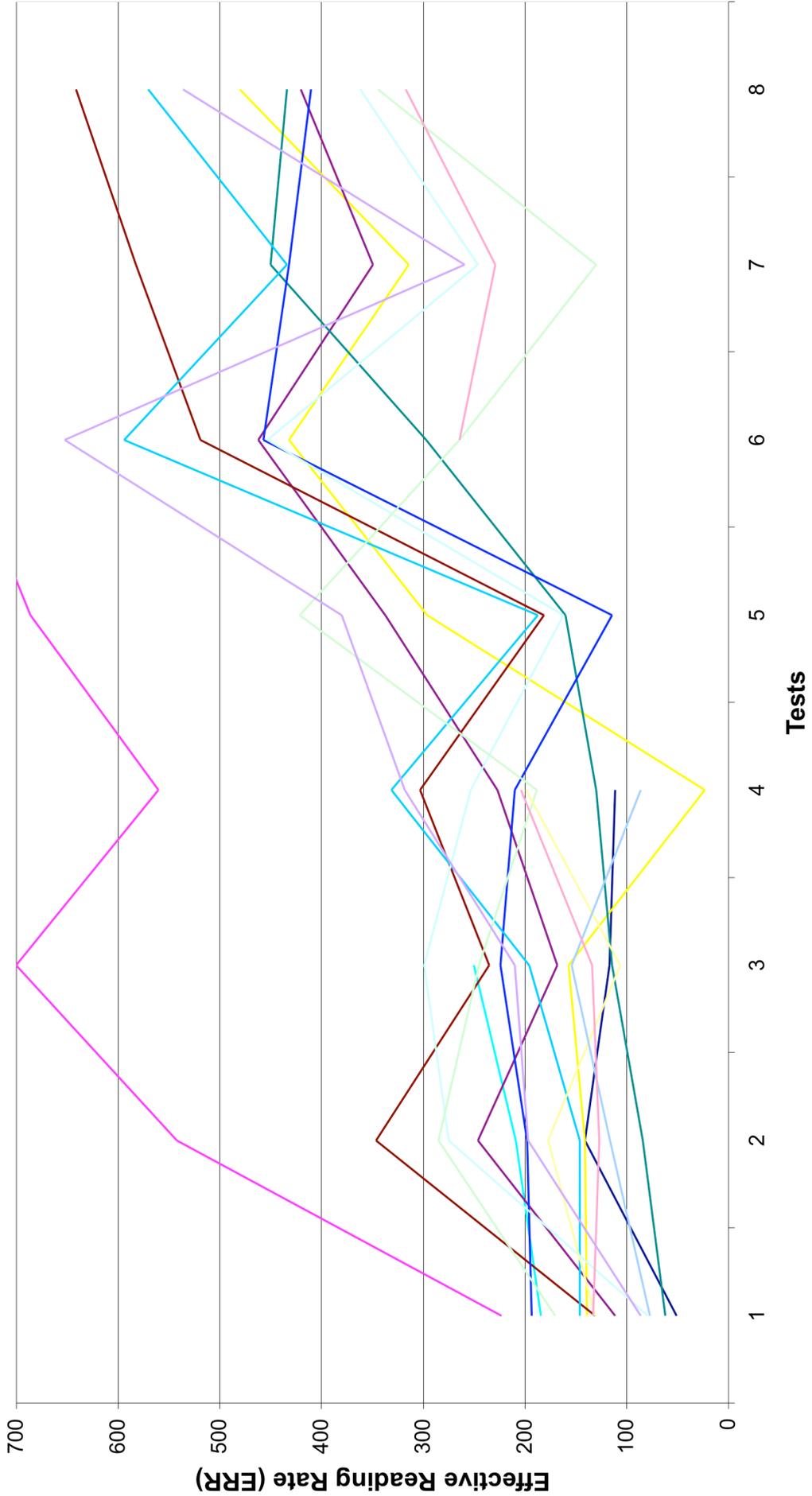


Diagram 26: Comprehension Tests 22/23 March 2002 - Effective Reading Rate

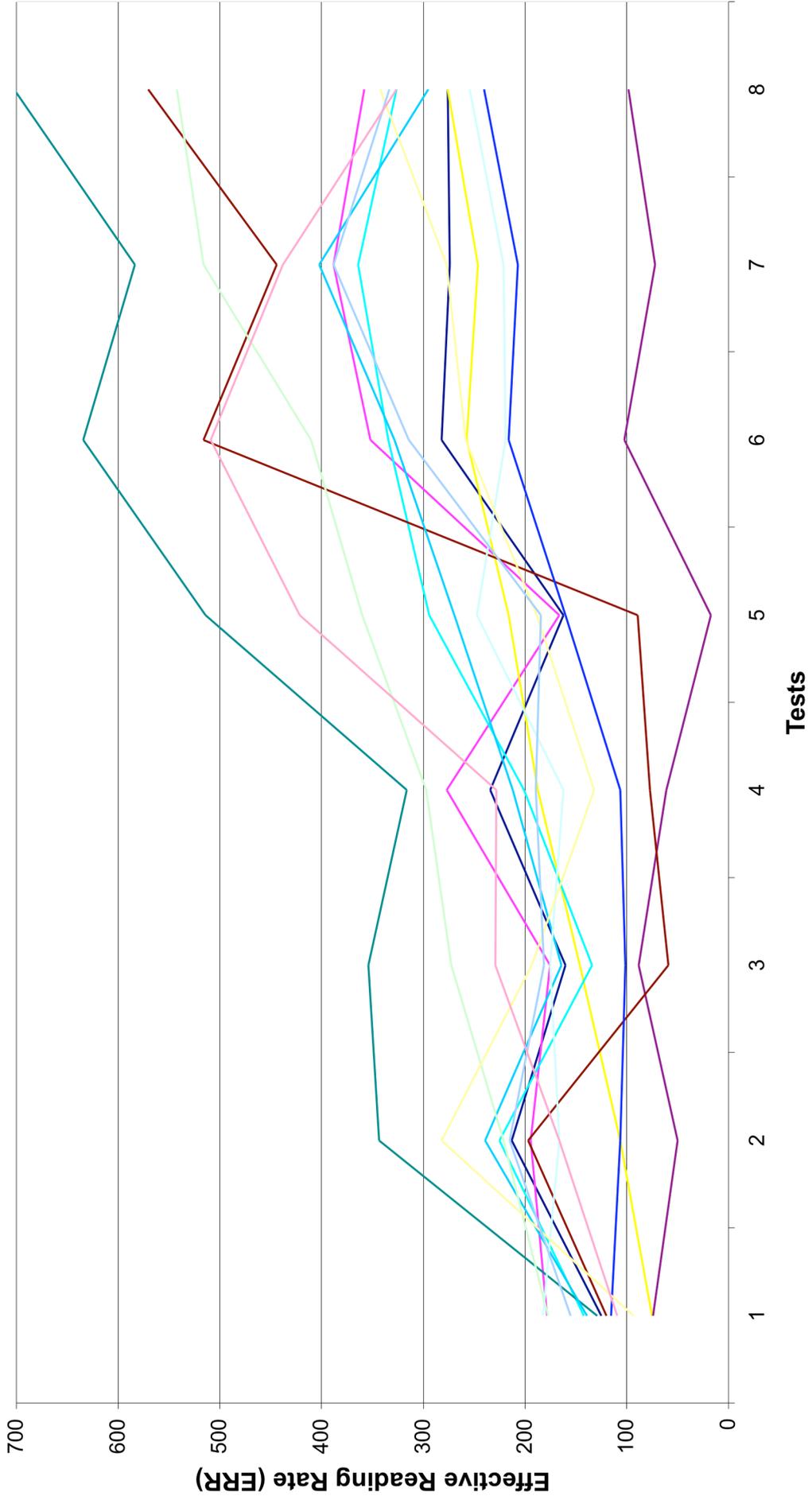


Diagram 27: Comprehension Tests 26/27 April 2002 - Effective Reading Rate

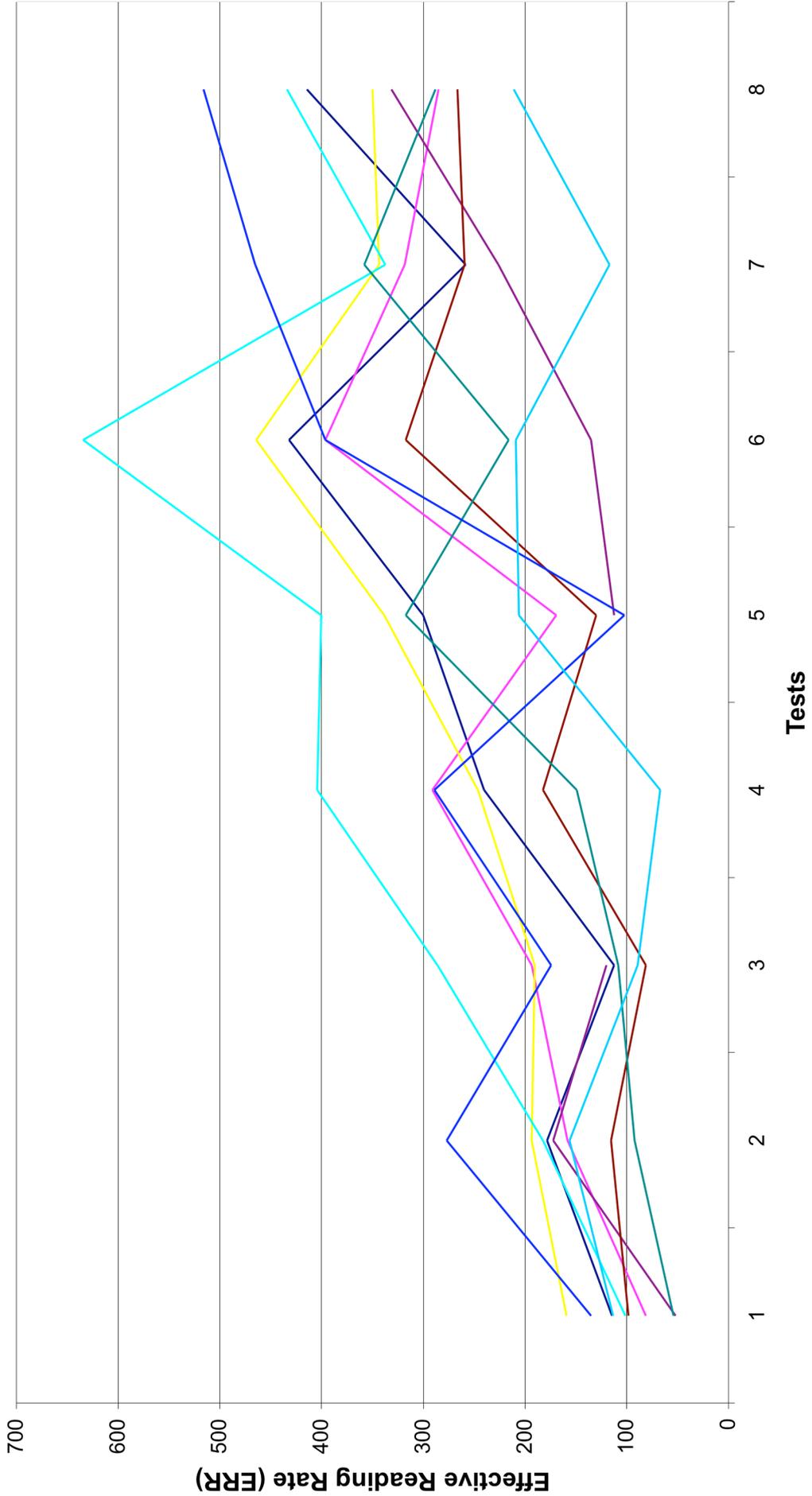


Diagram 28: Comprehension Tests 25/26 May 2002 - Effective Reading Rate

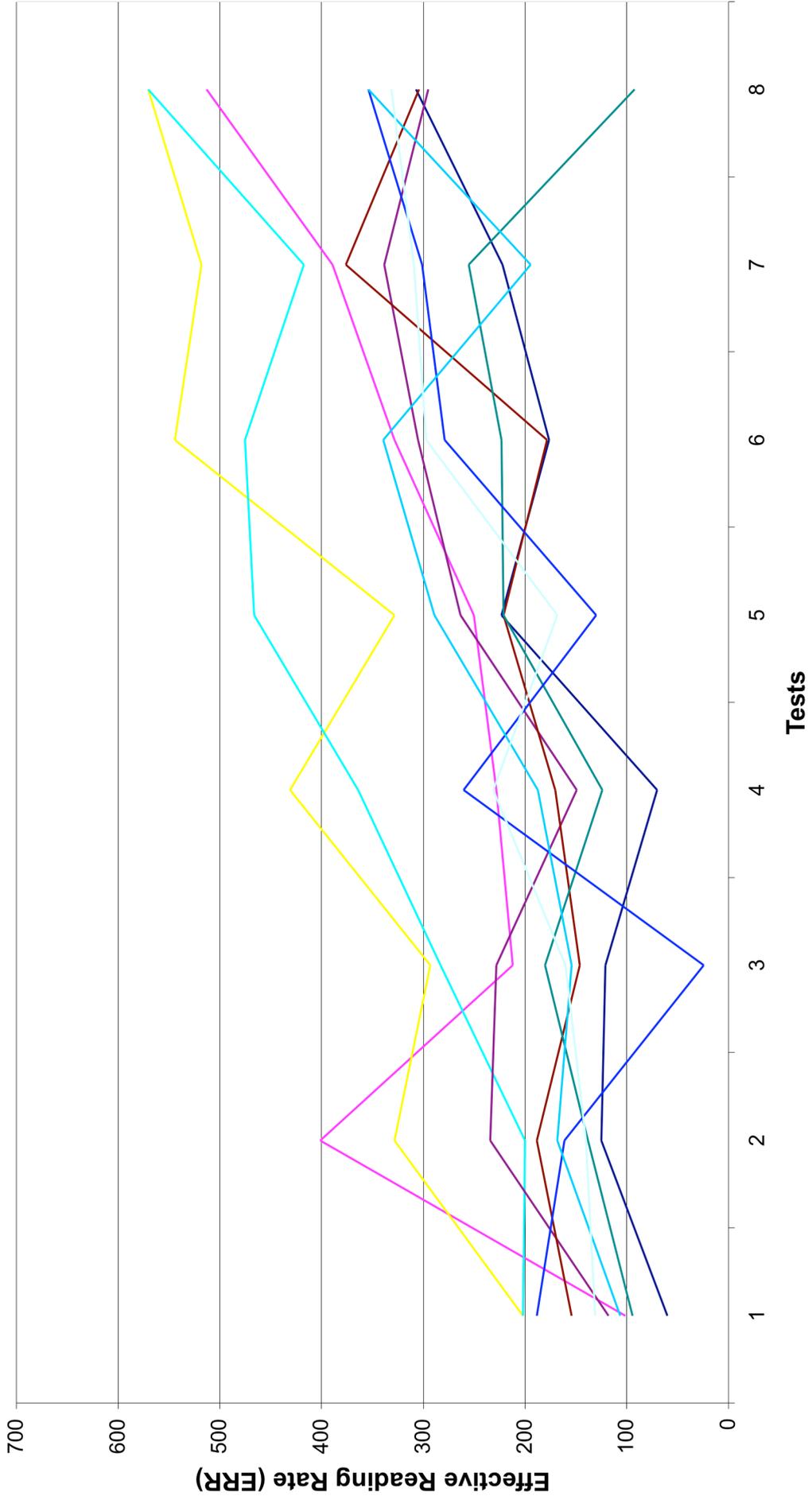
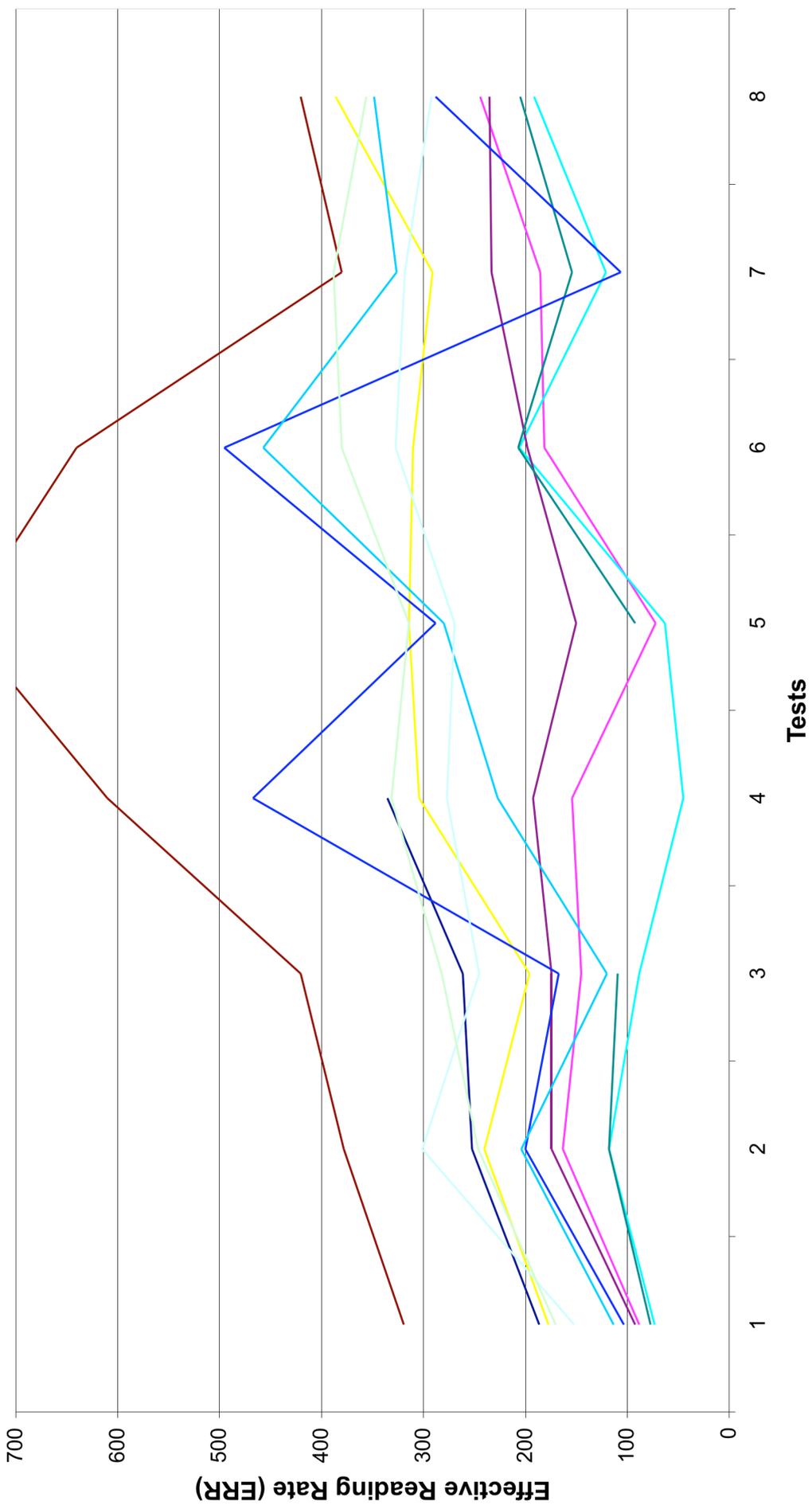


Diagram 30: Comprehension Tests 27/28 July 2002 - Effective Reading Rate



2.4 Interpretation of course results: WPM, comprehension and Effective Reading Rate

WPM: Diagrams 7 to 14 show that participants had achieved relatively similar WPM rates at the beginning of the course. Most WPM rates were between 150 and 250 (average rate of all participants: 202.9 WPM). The German native speakers who took part in the Improved Reading course had slightly lower WPM rates than the average rates of adult British native speakers. According to the course organiser, their average WPM is 220.²

The WPM rate increased continually up to the 8th test. With one exception (see Diagram 13) all participants increased their WPM rate. Although the rates were very similar at the beginning of the course, they ranged from approx. 300 to 600 WPM at the end. Even higher values were also attained in almost all courses. In four cases, the WPM rates in Test 8 were below 300.

Differences in experience and educational background, as well as various degrees of foreign language proficiency within the groups of participants are not reflected in significant WPM rate differences. This indicates that when a certain level is reached, faster reading does not primarily depend on these factors, but constitutes an intrinsic skill.

Comprehension: The number of correct answers gradually changes between Test 1 and Test 8 in all courses. No clear trend is evident. In this gradual development, a stable and comparatively high level of comprehension is established in Tests 6, 7 and 8. In Test 5, the level declines slightly. Top results - 9 - 10 correct answers - are seldom achieved; poor results - 2-3 correct answers occur more frequently than in the other tests.

The comparison of comprehension in individual tests does not deliver any proof that the sequence in which the comprehension tests are taken has any significant influence on the Effective Reading Rate. This finding corresponds to a study implemented by the University of Newcastle-upon-Tyne on Improved Reading. In this study, the sequence of the texts used in the texts was continually changed. The study therefore shows that this factor does not influence the measured results.³

Effective Reading Rate: The development of Effective Reading Rate is relatively constant and corresponds to the development of comprehension. The ERR values at the beginning of the course are in a very close range of between approx. 80 and 200 (average ERR of all participants: 138.1). As was the case with WPM rate, the ERR continually increased. At the end of the course, the ERR of all participants had improved. The values at the end of the course cover a much broader range than those at the beginning of the course (ERR 250 to 550). Diagrams 29 and 30 show an overall low level of between 190 and 390. The test results therefore document that ERR at least doubles or triples. Diagrams 29 and 30 show an improvement of around double the original rate.

² Improved Reading Centres, Instructor's Manual, o.O. u. J., p. 52.

³ Summary at: http://www.getting-on.co.uk/toolkit/mp_imp_reading.html.