Lexical trajectories and learning style

Paul Booth
Kinston University
BAAL Language Learning and Teaching SIG July 2008
Outline

• A definition of learning style
• Research questions
• Lexical richness: diversity vs. rarity
• Participants and texts
• Results: diversity and rarity against Memory and Analysis
• Conclusions
Skehan’s representation of learning style

• Memory-orientated learners
  – Wide range of lexicalised exemplars
  – Highly accessible exemplars
  – May not value form so highly

• Analysis-orientated learners
  – Rule-based representation of the language
  – Language more open to restructuring
  – May value accuracy
Skehan’s representation of learning style

- High memory – low analysis
- High memory – high analysis
- Low memory – low analysis
- Low memory – high analysis
Language aptitude/learning style and second language vocabulary

- early immersion students: positive correlation between memory (for text) and vocabulary recognition;
- late immersion students: positive correlations between language analysis and vocabulary recognition

Harley and Hart (1997)
Research questions

1. Are any patterns in lexical richness i.e. diversity or rarity trajectories related to strengths and weaknesses in Memory and Analysis?

2. Is productive lexical development a linear or non-linear trajectory over time?
Lexical richness: diversity

**Diversity**: a variety of different words rather than a limited number of words used repetitively.

Example: *The heat of the night.*

Type-Token ratio of 4 types/5 tokens = 0.8
Lexical richness: rarity

- **Rarity**: a selection of low-frequency words that are appropriate to the topic and style of writing.
I am writing to express my extreme concern about the article published in the daily sun on the 11 of September 2007. This article described the standard at the kpd_school. I am an ex_student who visited the kpd_school last year. I am worried about the effect which your article will have on the reputation of the school. I appreciate the reason for writing this article but have you taken into account what consequences it will have. According to your article the tuitions are not well prepared and the teacher are not motivated.
Calculating the statistics: diversity (D_Tools) and rarity (P_Lex)

- D_Tools (Meara and Miralpeix 2007) is based on a type-token curve fitting statistic (parameter D).

- P_Lex (Meara (2007) distinguishes between high and low frequency words and produces a summary statistic (lambda).
Participants

• 12 second language learners of English who were enrolled in a private language school in London.

• All learners were post Cambridge First Certificate level grade C or above. All worked in an international Swiss bank.

• They were on an intensive language course designed to help them pass the Cambridge Advanced Exam.
Texts analysed for productive vocabulary

- Text 1: A character reference for a job
- Text 2: A report (fund raising for a charity organisation)
- Text 3: A report (profit investment)
- Text 4: A letter recommending changes for a friendship club
- Text 5: A complaint letter to the editor
Tests of memory and analysis

• Language Aptitude Test (LAT) B Memory: tests your ability to remember pairs of words when they are displayed to you in writing.

• Language Aptitude Test C Analysis: tests your ability to find or infer rules from examples of a language you will not know.
Memory (LAT B) and Analysis (LAT C) scores
### 3 groups: bottom memory and analysis, high memory, high analysis

<table>
<thead>
<tr>
<th>Participant</th>
<th>Memory</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>16</td>
<td>45</td>
</tr>
<tr>
<td>10</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>12</td>
<td>22</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>90</td>
<td>65</td>
</tr>
<tr>
<td>7</td>
<td>80</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>32</td>
<td>75</td>
</tr>
<tr>
<td>9</td>
<td>88</td>
<td>90</td>
</tr>
</tbody>
</table>
Mean lexical diversity (D)

Parameter D

Texts

Mean D
Lexical **diversity** (D) plotted against texts at bottom Memory and Analysis level.
Lexical **diversity** plotted against texts at high Memory level
Lexical **diversity** plotted against texts at high Analysis level.
Mean lexical rarity (lambda)

Text 1
Text 2
Text 3
Text 4
Text 5

Lambda

Mean Lambda
Word **rarity** plotted against texts at bottom Memory and Analysis level
Word rarity plotted against texts at high Memory level
Word **rarity** plotted against texts at high Analysis level
High Memory low Analysis: erratic diversity (D) and rarity profiles

**Participant 7, text 3 (investment): high diversity (D) high rarity**

the aim of this report is to determine in which of the following options we should invest the high profits of this year new computers language training courses special bonus payments new computers we replaced our computers one year ago on the whole it would appear that an investment in new computers would not have an optimal return language training courses language training courses are demanded in our company in particular our client advisors who works in wealth management international would appreciate to participate in language courses in fact a substantial number of clients who live abroad don speak English however these clients would prefer to have a client advisor who speak their language it concerns Russian and south American clients it appears that we can employ skilled client advisors who already speaks Russian or Spanish moreover learning a language takes a considerable amount of time in the near future we will not receive a substantial return from this investment special bonus payments it would appear that a everyone had a good year particularly other banks however in a successful financial year there is always a significant number in staff turnover extraordinary bonuses would motivate our employees and reduce staff turnover recommendation to sum up the special bonus payments would be the most worthwhile investment for our company in short we would be able to retain experienced employees and on the other hand we would take the first step to a successful financial year in number

**Participant 7, text 4 (friendship club) Low D low rarity**

I am writing to give you my and the other members feedback about the international friendship club we extremely appreciate being members of this open minded club but it is felt that there are still points we could improve we are concerned about the steadily decreasing number of new memberships it would be welcomed to be an attractive club for new members if we want to achieve this goal it would be necessary to over think our programme in fact it was felt that the meetings are not always exciting and interesting in addition it would be appreciated to have more variety in the programme in particular a few evenings outside the club such as a barbecue or a sports tournament would be much more entertaining the beneficial effect would be more satisfied members which would invite other friends to join the club and we would win new members the members always respected and appreciated the committees work and it is well known that there is much work behind however we would be glad if five of our young members would be given the opportunity to join the committee with this measure we would have committee members of all ages and as a result we would be able to create synergies because of the different ideas and opinions for our programmes it appears that the whole appearance of the club such as a promotion and the clubroom could be much better in fact the clubroom could be more colourful and the publicity more attractive there are some members which would volunteer to make it more eye catchy we hope that we have given you an objective feedback and are looking forward to hear from you
High Analysis: systematic diversity and rarity

- **Participant 9 text 3 (investment)**
  - introduction the principal aims of this report are to give an overview of the different areas describe the advantages of investing in different options recommend how the amount of money should be invested overview this year the profit is exceptionally high our company has to decide how the amount of money should be invested there are three different areas which could be possible one of the following options will obtain the investment new computers language training courses or special bonus payment advantages of new computers in my view all the aforementioned areas require the investment however most departments desire new computers for their offices the old computers and software become obsolete firstly modern flat screens will save space and have a more attractive appearance secondly our staff will be more motivated and the productivity will improve finally information can be provided more quickly advantages of language training courses another possibility is to offer language training courses the following points summarise my key findings if our colleagues can speak a foreign language fluently they will be able to communicate with our customers in different languages these language skills will give us a serious advantage over the competition advantage of special bonus payments finally the third option is to invest the profit to make bonus payments i convinced that the staff will be pleased however we have to take into account the fact that this option is expensive than the first and second option what i concerned about is that our staff expect bonus payments every year recommendations it would be in our interest to invest in the first or second option in my opinion the profit should be invested in new flat screens and software this area has the most benefits

- **Participant 9 text 4 (friendship)**
  - I am writing to express my concern about the decreasing number of members and to suggest different events for the October programme firstly it is felt that our meetings should be more entertaining the current meetings are quite boring and not appropriate to all age limits secondly it is found that the clubroom would attract more people if it had a more modern appearance we could provide free drinks and free access to internet the members have the impression that the clubroom is quite old fashion dark and small finally it seems that our advertising campaign could be improved the publicity for our friendship club is not attractive we should also take into account that the average age of committee is increasing new young people in the committee would have a positive effect on the club it is suggested that we should introduce a new programme with existing activities for the future we discussed several events such as going to a nightclub making a barbecue or organise sports tournaments these events would have a great impact on our club atmosphere for example making a barbecue we could meet in the garden of a new member and grill some sausages in the time you are waiting for your food you have the opportunity to learn some more about the other club members other proposals are organising sports tournaments or going to a nightclub both of them would improve the communication between the members and would satisfy them thank you for your time and consideration should you require more information please do not hesitate to contact me on my mobile phone
Conclusions

- **Analysis-orientated** learners are more likely to show similar patterns of lexical trajectories over time.
- **Processing**: This may reflect a bottom-up approach to language learning i.e. an attention to how language is constructed. Possibly a more systematic and predictable use of lexis.
- **Development**: Lexis may be more deeply analysed and so committed to long term memory.

- **Memory-orientated** learners tend to show greater variation in their trajectory pattern.
- **Processing**: This may reflect a top-down approach i.e. an attention to meaning rather than form of the language.
- **Development**: Lexis may be less likely to be analysed and so only committed to short-term memory but less likely to be committed to long-term memory.
- Learners may benefit from activities like dictogloss to focus learners’ attention on gaps in their language knowledge and so encourage restructuring.

- **Task topic**: seems to influence lexical rarity but not diversity.
References


