

“Literary Studies: A Computer Assisted Teaching Methodology”

Jon Mills* & Balasubramanyam Chandramohan†

Department of Linguistics, University of Luton, Park Square, Luton, Bedfordshire, LU1 3AJ, UK

e-mail: jon.mills@luton.ac.uk

bala.chandramohan@luton.ac.uk

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Abstract

We used TACT computer software to teach Joseph Conrad's novel *Heart of Darkness* to BA (Hons) students at the University of Luton in England. Conrad's novel is one of the texts used in the 'Language and New Literatures' modules (units). In these modules we combine analytical approaches to literary texts with linguistic methods. We used TACT to reinforce the understanding of the text of *Heart of Darkness* achieved through such a combination of methods. An exposure to the computer-based approaches to the text described in this article made the students' interaction with the text a more complex and rewarding experience.

This year Conrad's short novel, *Heart of Darkness*, was chosen as one of the set texts for the *Language and New Literatures* modules [units within our BA (Honours) course] at the University of Luton. As part of the module, first year students make use of TACT computer software (Bradley, J. & L. Presutti 1993) to explore linguistic features found in the novel. Advances in information technology create a need for the formulation of new teaching methods. This paper is based on our experience of teaching first, second and third year undergraduates following Language and New Literatures modules at the University of Luton.

* Jon Mills is a Lecturer in Linguistics, University of Luton. His research interests include technology enhanced learning, lexicology, and the Cornish language. Recent publication: 'Computers in Applied Linguistics' in *Solving Language Problems: From General to Applied Linguistics* R.R.K. Hartmann, ed. Exeter: Exeter University Press (1996). ISBN 0 85989 484 3

† Dr. Balasubramanyam Chandramohan is a senior Lecturer in Linguistics, University of Luton. His research interests include Literary Stylistics; Language Variation, especially through comparative study of language corpora. Recent Publication: *A Study in Trans-Ethnicity in Modern South Africa: The Writings of Alex La Guma (1925–1985)* (Lewiston, NY: Edwin Mellen, 1992), 292 pp.; ISBN 0-7734-9186-4. 'Code-switching and Literary Texts: a pedagogical experience', *Proceedings of Summer School on Code-Switching and Language Contact* (Ljouwert/Leeuwarden, Holland: Fryske Academy, 1995), pp. 299–301.

In these modules we combine analytical approaches to literary texts with linguistic methods. We use TACT to reinforce the understanding of the text achieved through such a combination of methods. At the end of the module we expect the student to be able to undertake linguistic analysis of a literary text, and to be able to discuss critically different concepts and approaches to chosen themes basing their analyses on close scrutiny of statistical and connotative aspects of the words used in the texts.

1. Background to the TACT activity

What follows is an abstract discussion of ideas that we used to convince our students to try out a new way of analysing literary texts. Although most of the students were computer literate (or were willing to become so), they needed persuasion to integrate their computer literacy with linguistic analysis.

Information technology is being increasingly used by many readers to interact with various literary texts. The application of electronic text analysis to stylistics is of value to the study of structure, style, prosody and content of texts. In this context computer oriented methodology relates literary appreciation and analysis

with everyday man-machine interaction. A learner-centred approach to computer assisted literary studies leads to a deepening of the learner's understanding of language, culture and literature.

Computer text analysis and retrieval software enables learner-centred, conjectural learning from an empirical basis. This represents an innovation which enriches and expands students' sensitivity to both literary and linguistic features. In terms of language learning methodology, it employs open learning strategies which demonstrate flexibility with regards to aptitude, pace and outset of learning.

An empirical basis is essential if a theory is to be credible and the computer provides the means to collect data not only more accurately but also for much longer texts than would prove feasible by human endeavour. Concordance work brings to the reader awareness of the complexity of the average literary text. Frequency lists and collocations generated through the use of TACT can help not only in establishing stylistic, lexical and grammatical patterns but also in reconfirming conclusions reached by literary critics on matters of themes and their treatment through traditional (i.e. non-computational) methods common in literary and linguistic analyses.

2. Familiarising TACT

Our preparation of students for the TACT activity required targeted effort in explaining the analytical uses of the software such as concordancing and the preparation of wordlists. Classroom sessions with handouts, screen displays and 'chalk and talk' articulated the following arguments.

In the field of literary studies, a concordancer may be used in a number of ways. It has been suggested that the teaching of literature in English Language Teaching programmes encourages personal response to text by increasing students' sensitivity to the linguistic means by which textual affects are achieved. A close focus on the linguistic or stylistic features of text is therefore latent in the students' learning process. It is feasible to draw conclusions about *why* a writer uses words in a certain manner if it is accurately known *how* he/she uses words. It then becomes possible to theorise about how texts achieve their effects (Phillips 1987). The nature of the literary text as a pattern, a composite form made up of recurring elements, dependent for its effects on both content and form is made explicit by linguistic/literary analysis. Discussing what can be

done with text analysis software involves considering the reasons for making concordances and wordlists, which leads to scrutinising literary analysis methodology.

The approach we adopted requires literature students to examine an argument or set of arguments found in critical literature and use a concordancer to check their validity by focusing on the different linguistic relationships between selected words in a concordance (Davidson 1990).

Word frequency analyses are well known in the field of authorship studies (Wisbey 1971; Hockey 1980). Electronic text analysis offers statistical investigation of, amongst other things, the size and diversity of an author's vocabulary (Phillips 1987). A descending frequency wordlist may be used to select likely candidates for concordancing. The first lexical item encountered in a descending frequency list is normally found to operate, in some way, at the level of the 'literary device' (Louw 1990).

The study of thematic patterns or recurrent images in literature may be aided by data concerning the distribution of selected words throughout a given text. Concordances of theme words such as *love*, *hope* and *fear* may be consulted to establish patterns that underpin the evolution of particular themes (Misek-Falkoff 1983). Certain themes can be traced throughout a particular text by calling up all the chapters in which certain keywords crop up. The development of a given type of imagery can be traced in this manner (Phillips 1987).

3. Using TACT: Luton Students' Analysis of *Heart of Darkness*

The students began their exploration of *Heart of Darkness* with lexical analysis. They followed this up with a selection and investigation of the imagery employed by Conrad in the novel.

Students made a selected wordlist of items that occur between 20 and 99 times. They used this frequency to omit the closed class items that are found at the top of the frequency list as well as items of low frequency. Then, they focused on most frequently occurring open class items. Next, students scanned the wordlist for words which might tell them something about the story. We, as instructors, elicited these words and wrote them on the board. We divided these words into semantic fields. A typical outcome was as follows:

<i>Antonyms</i>	dark/ness and light, black and white, night and day, dead and life
<i>Topography</i>	bank, forest, earth, sea, air, water, wilderness, station, river.
<i>People</i>	pilgrims, manager, Kurtz, men, Mr.
<i>Parts of the Body</i>	feet, hands, heart, face, eyes.
<i>Activities</i>	work.
<i>Objects</i>	ivory.
<i>Miscellaneous</i>	silence, lost.

Next, the class discussed the list. Students noted that although the item *men* occurs *women* does not. A check shows that the items *man* and *men* together occur a total of 166 times. The items *woman* and *women* together occur a total of 15 times.

From this difference in the occurrence of the words 'man', 'men', 'woman', and 'women' it can be concluded that women play a comparatively minor role in the story. O'Prey (1983: 22) maintains that *Heart of Darkness* "avoids what is Conrad's greatest fault, his inability to create convincing women characters, by keeping its only two women (Conrad's aunt and Kurtz's 'Intended') in the background."

The above kind of inference based on a frequency list is limited in its use. In arriving at this inference, the students come to a general conclusion based on the number of times a word/words occur, but ignore the context.

To overcome this gap in understanding the text, students use three other functions of TACT which provide the context of the occurrence of individual words: *Collocate*, *Distribution* and *Text*. TACT's Collocate display (see Figure 2) lists the collocates of the word under investigation in descending order of Z-score, which is a statistical measurement of collocational significance. A collocate is any word that occurs within a span of five words on either side of the word under investigation. The *Distribution* display gives a bar chart showing the distribution of the item under investigation throughout the text (See Figure 3). The *Text* display shows the text with the item under investigation highlighted. These three displays can be shown on screen simultaneously in three panels. Furthermore the three panels are linked, so that the collocation selected in the collocate panel is simultaneously displayed in both the *Distribution* and *Text* panels. The students first chose a word ('heart', for example) that they wanted to examine. Then they created *Collocate*,

Distribution and *Text* displays). In this way the students were able to study the use of the word 'heart'.

Then the students looked at the distribution pattern for 'heart'. This pattern indicates a greater frequency of the word in the earlier sections of the book. For example, the word does not occur at all in the first 30% of the text while it occurs 12 times (out of a total of 22 times in the whole text) in the last 20% of the text. While considering the significance of 'heart' as a metaphor for the destination of the journey in the novel, the students were asked to choose a word that indicated the external or physical aspects of the journey. The students chose the word 'river'. The Distribution pattern for 'river' was called up, which, as seen in Figure 3 below, indicates almost a reverse of pattern for 'heart'. In the first 30% of the text the word 'river' occurs 22 times out of a total of 54 for the whole text, while in the last 20% of the text it occurs only 4 times. This difference in emphasis may be seen as an indicator of the shift in the thematic development of the novel, a move from an 'external' journey on the river to the 'internal' destination. – the very 'heart' of darkness.

4. Literary Criticism

The students used computers for literary analysis primarily in two areas: firstly, to reaffirm/question conclusions on thematic aspects of the novel which were reached through conventional methods of literary criticism, and secondly, to analyse imagery and characters through a stylistic exploration of the language.

As a part of the literary exploration of the text the following assessments were examined. These assessments were arrived at by literary critics through the study of the text in print. The students were encouraged to examine the validity of the assessments using TACT-derived data. This procedure allowed the students to confirm or reject assessments on the basis of 'objective' evidence rather than on an 'intuitive' understanding of the text. While we did not present one method as being 'superior' to the other, we argued that the two ways of evaluating the novel can complement each other.

1. O'Prey (1983: 7) "Conrad pays great attention to the effects of light." And on the theme of darkness he says, "Darkness is night, the unknown, the impenetrable, the primitive, the evil" (*Ibid.*: 9) and "The ambiguity which surrounds it is, on the one hand, deliberate and, on the other, a failure. The darkness is many things: it is the unknown, it is the subconscious; it is also a moral darkness, it is the evil which swal-

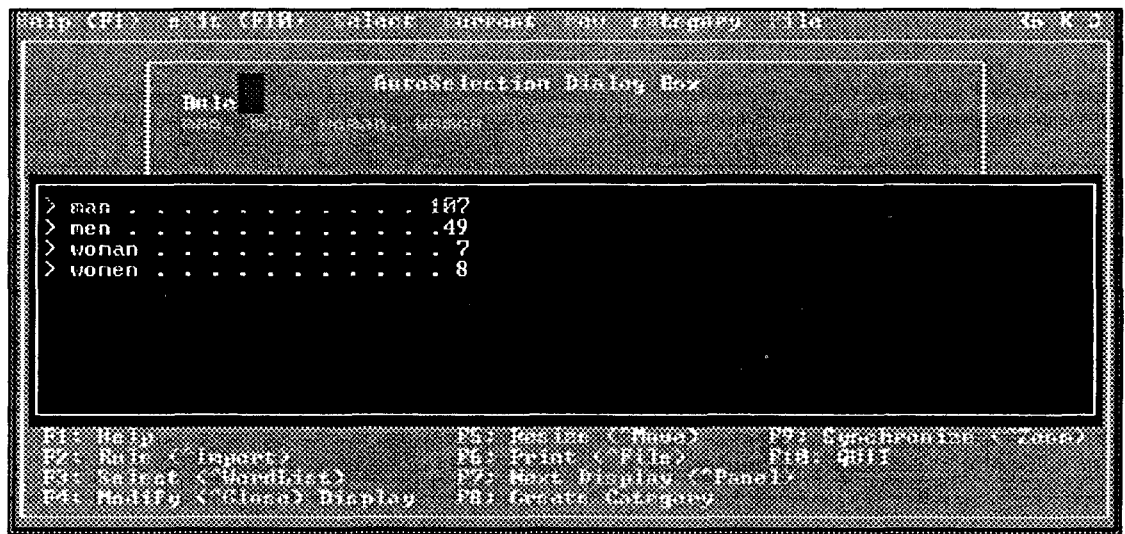


Figure 1.

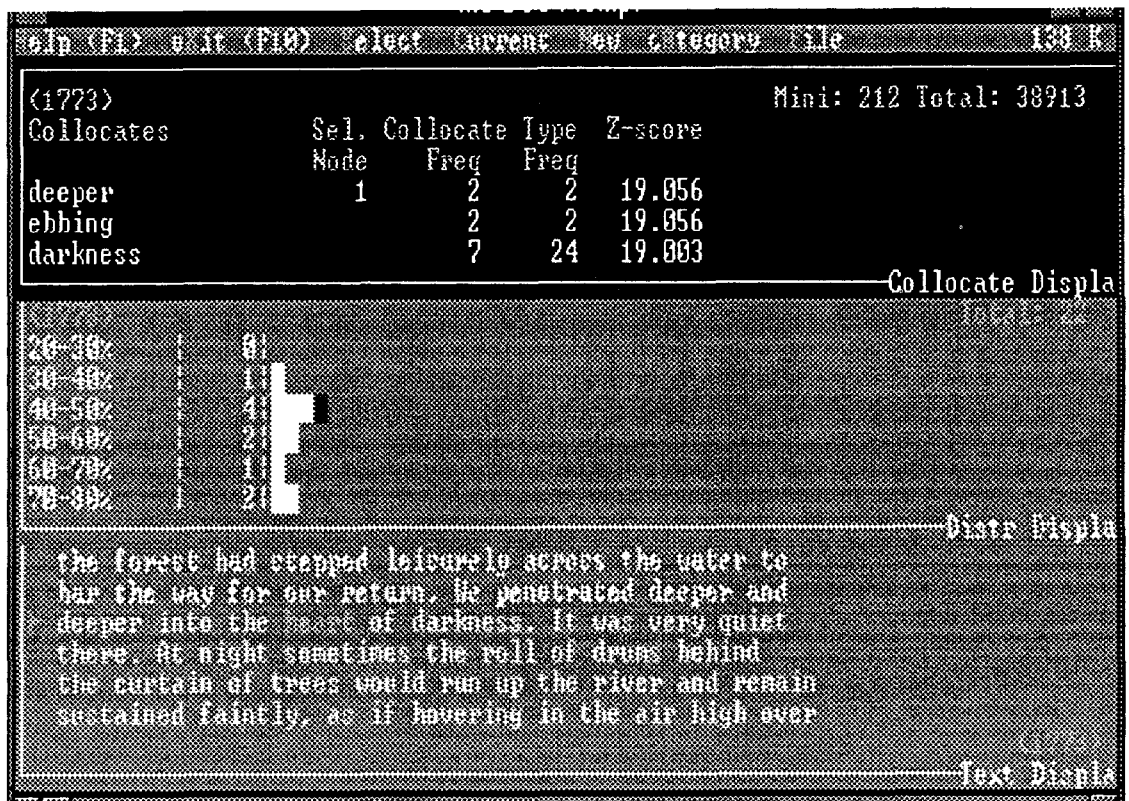


Figure 2.

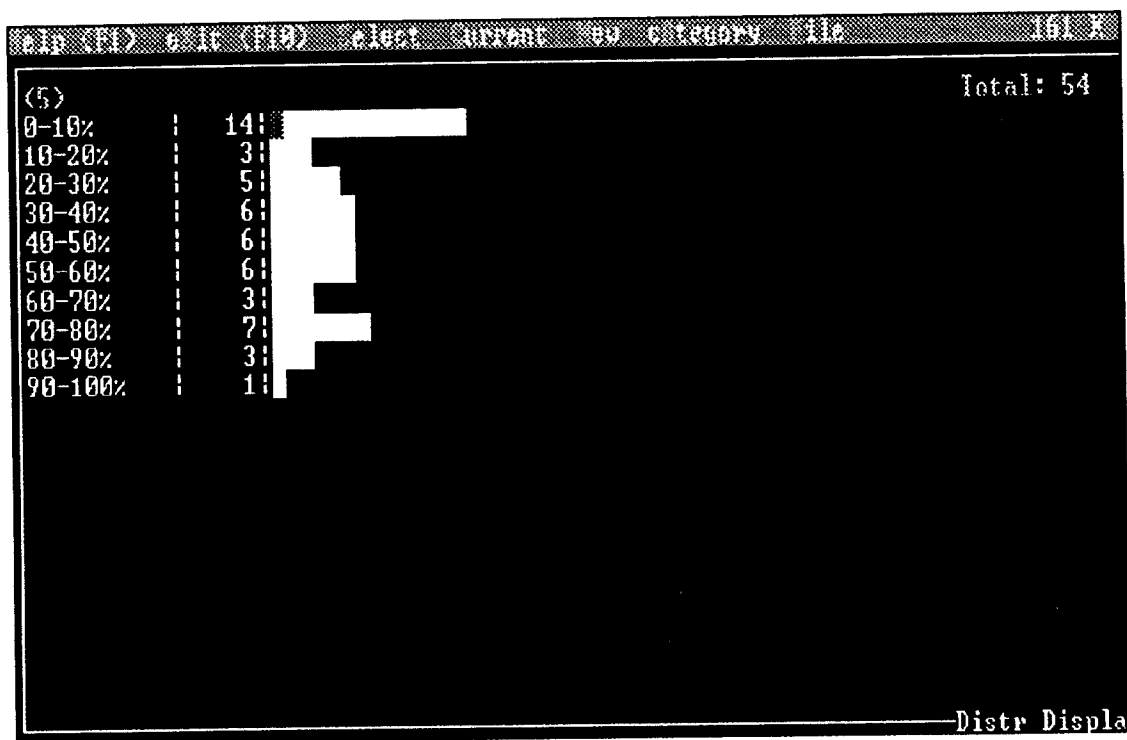


Figure 3.

lows up Kurtz and it is the spiritual emptiness he sees at the centre of existence; but above all it is mystery itself, the mysteriousness of man's spiritual life, and to convey all this a certain amount of ambiguity is essential" (*Ibid.*: 18).

2. EM Forster writes of Conrad that "The secret casket of his genius contains a vapour rather than a jewel." In other words, by paying more attention to the surface reality of Marlow's story, its external details, an inner means should emerge.

3. In his book *The Great Tradition*, FR Leavis criticised Conrad for his vagueness and imprecise adjectives such as 'inscrutable', and 'unspeakable'.

4. James Guetti describes the story of *Heart of Darkness* as "the account of a journey into the centre of things – of Africa, of Kurtz, of Marlow and of human existence."

5. Excerpts from a Student's Assignment

"We have seen that [the word] dark is used initially in reference to things unknown, whether they be "dark places of the earth," "dark corners" or even dark

men. But as the novel progresses and Marlow journeys further into the unknown, dark[']'s usage seems to swing more towards meaning fear and perceived evil ...

"The data from the distribution display confirms a higher concentration of occurrences of this word dark in the last 30% of the corpus than in the preceding 70%, which indicates that as the novel progresses towards its climax, there is more uncertainty, fear and evil as perceived by Marlow and indeed Conrad.

...

"... I wanted to investigate the elusive Mr. Kurtz, and so by looking at different occurrences of 'Mr. Kurtz' and how the different configurations of the phrase featured in the text as according to the COLLGEN display, I then entered TACT.

"Now by entering as rules the pairings or groups of three that I found, I called up an INDEX display and examined how they worked in context.

"I found that Mr. Kurtz was a mysterious character right until the end. Very few words were spoken by Kurtz himself, excepting of course his last words, "the horror." In fact, I found that Kurtz was spoken 'of' rather than spoken to. He was spoken of with a

great amount of respect, yet with a certain amount of distance, as no one was close to him. Indeed when he died, he took with him many secrets."

6. Conclusion

The use of computers was found to allow for two possibilities in the study of the literary text. Firstly students were able to compare and contrast the perspectives they had developed from approaching the text through literary and linguistic models of interpretation and appreciation. The study of word frequency lists confirmed or challenged their understanding of thematic concerns and linguistic devices that underpin the communicative aspects of text as discourse.

Secondly students were challenged to consider the text in new ways. Reading a novel in a digital format de-aesthetises the notions that we generally associate with the printed text (from cartography and calligraphy to the ownership of a particular edition that a collector might envy). Thus, the students read the text without having the luxury of maps that might illuminate the hero's journey through the 'dark' continent or enjoying aesthetic aspects associated with the (printed) page layout. It is important to realise the differences in the connotative aspects of the two experiences i.e. reading the text in a digital form and in the conventional,

printed form. These differences explain, largely, the diverse emphases placed in literary, linguistic and computational analyses of literary texts. An exposure to the computer-based approaches to the text described in this article makes the students' interaction with the text a more complex and rewarding experience.

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