

Scientific Report Short Term Scientific Mission COST ISO703 - Veerle Baaijen

April 20th until the 1st of May 2009

Purpose of the visit

Kellogg (1988) has shown that outlining improves text quality. According to Bereiter and Scardamalia (1987) this is a consequence of how it helps writers to develop their understanding. However, this claim has not been directly tested. Furthermore, alternative models of writing (Galbraith, 2009) claim that outlining can reduce, rather than enhance, the development of ideas and that effects of outlining vary as a function of individual differences in self-monitoring.

The aim of my first experiment was to test whether development of ideas varied as a function of outlining and self-monitoring. During the first part of my Short Term Scientific Mission, which took place in November 2008, I have discussed the design and the method of my first experiment together with David Galbraith. The purpose of this Short Term Scientific Mission was to analyze the first results of this experiment and to discuss the results together with David Galbraith.

Description of the work carried out during the visit

During my Short Term Scientific Mission the following things have been carried out:

- (i) Discussions about issues concerning the coding and entering of the data. Next, the data was screened before starting with the analysis.
- (ii) Tutorials about statistical analyses and methods. Analysis of variance and regression analysis were discussed. In addition, some preliminary analyses were carried out.
- (iii) Discussions and tutorials about the knowledge change measure used by Galbraith in previous research. After initial data screening it was decided to drop two of the three scales of the initial knowledge change measure, since these scales didn't tell us anything. In the previous STSM (November 2008) it was already discussed that these scales were rather vague. In line with previous discussions from Galbraith (Galbraith, 1999) further analysis of the subjective understanding will only be carried out with either two or three of the remaining scales of the knowledge change measure.
- (iv) Analyses and discussions about the results for different measures of idea change which have been used by Galbraith before, such as the development of new ideas and the complexity and importance of ideas produced before and after writing. Also, some initial analyses were carried out on the effects of planning.
- (v) Finally, future analyses were discussed: these included analysis of the relationship between idea change and changes in subjective understanding, quality ratings, idea coding in the written essays and idea coding in the written outlines as well as the analyses of the process data.

Description of the main results obtained

During this STSM the following results have been obtained:

- (i) Analyses of the results showed a clear difference in the conditions under which writers report development of understanding: participants reported significantly greater understanding after synthetic planning than after outline planning. This is a new finding with potentially important theoretical implications in that it appears to contradict the assumptions of Bereiter and Scardsmalia's knowledge-transforming model of writing, but is compatible with the assumptions of Galbraith's dual-process model.
- (ii) However, in my experiment I didn't find an effect of self-monitoring or type of planning on the development of new ideas. This finding contradicts previous findings from Galbraith. Discussions about these findings suggested that the context in which my experiment took place had a more specified rhetorical context than the rhetorical context of previous experiments carried out by Galbraith. This assumption needs to be tested in future research (by manipulating rhetorical context) but if it is correct it suggests that the effects of individual differences in self-monitoring may be reduced by providing a clearer specification of the rhetorical context in which writing takes place.
- (iii) Other results showed some effects of planning. The effects of outlining on initial ideas varied depending on self-monitoring. Also, a reduction in the length of old ideas was found for writing in the outline condition, but not for writing in the synthetic planning condition.
- (iv) Initial analysis of the relationships between idea change and subjective changes in understanding suggested that the most fruitful way of analysing these relationships would be to use MANCOVA followed up by discriminant analysis. This analysis is currently in progress. Plans were also made for similar analyses of the relationship between these variables and text quality and for analyses of pauses within the texts (possibly using multilevel modelling).

Future collaboration with host institution

Both short term scientific missions (November 2008 and April 2009) have proven to be very productive for my PhD research. The opportunity to work together with David Galbraith from the Staffordshire University has helped me with the development of my understanding about writing research in general and with my understanding of Galbraith's contributions to this research field specifically. As a result of the STSM a return visit by Galbraith to Groningen (funded by the University of Groningen) has been arranged. Further exchange visits are planned to develop other studies building on the research carried out so far. These will be valuable contributions to my training as a PhD student.

Projected publications/ articles resulting or to result from STSM

It is anticipated that an article about this research will be submitted to a refereed international journal over the summer.

Confirmation by the host institute of the successful execution of the mission

I confirm that the mission was extremely productive and has led to the development of detailed plans for future collaborations between the two research teams. I can be contacted at d.galbraith@staffs.ac.uk if further details are required.