



A Sequential Analysis of Responses to Messages Posted by Students with Low versus High Writing Skills in Online Debates



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INTRODUCTION

This case-study examined how students' writing skills (grammatical & spelling errors) influence how likely students respond to arguments with challenges and respond to challenges with counter-challenges vs. explanations vs. supporting evidence in asynchronous threaded discussions. Given that human communication research has shown that verbal fluency can affect how others perceive the competence, credibility and persuasiveness of the speaker (Burgoon et al., 1990), this study hypothesized that: a) arguments are more likely to elicit replies that challenge the arguments when arguments are posted by students with weak writing skills than by students with strong writing skills; and b) challenges posted by low-ability students are more likely to elicit counter-challenges than challenges posted by high-ability students. The research questions examined in this study were:

1. What differences exist in the response patterns to arguments, challenges, explanations, and evidence posted by students with low vs. high writing abilities?
2. What differences exist in response patterns produced in exchanges between low-to-low ability students vs. high-to-high-ability students?

METHOD

Seventy-two graduate students (42 females, 30 males) from four semesters of an online course on distance learning at a large southeastern university participated in four weekly online team debates in asynchronous threaded discussion forums. The debates were structured so that: a) students were required to post at least four messages per debate; b) prior to each debate, students were randomly assigned to one of two teams (gender balanced) to either support or oppose a given position; and c) students were required to vote for the team that presented the

METHOD continued...

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|-----------------------------------|---------------|---------------------------|
| [-] SUPPORT statement because... | Student names | Sat Oct 2, 2004 11:18 am |
| [-] +ARG#1 MedialsButAMereVehicle | Student names | Mon Oct 4, 2004 8:47 pm |
| [-] -EVID MedialsButAMereVeh... | Student names | Tue Oct 5, 2004 7:09 pm |
| [-] +But RelativityTheory... | Student names | Tue Oct 5, 2004 9:43 pm |
| [-] -But RelativityThe... | Student names | Sat Oct 9, 2004 10:12 am |
| [-] -BUT Whataboutemotions? | Student names | Tue Oct 5, 2004 9:53 pm |
| [-] +EVID DistEdEffectiveAsF2F | Student names | Tue Oct 5, 2004 10:40 pm |
| [-] -BUTMediaamerevehicle | Student names | Wed Oct 6, 2004 8:19 pm |
| [-] +EVID MooreConcurs | Student names | Wed Oct 6, 2004 10:07 pm |
| [-] +EXPLMediaSelectionCo... | Student names | Sun Oct 10, 2004 12:35 am |
| [-] -BUT WellChosenEffect... | Student names | Sun Oct 10, 2004 4:31 pm |
| [-] +But SupportingRes... | Student names | Sun Oct 10, 2004 5:37 pm |
| [-] -BUTMediaismorethanamere... | Student names | Fri Oct 8, 2004 5:30 pm |
| [-] +BUT SupportingEviden... | Student names | Sat Oct 9, 2004 8:51 am |
| [-] -BUT LearningNotSimplyAP... | Student names | Mon Oct 11, 2004 9:54 am |
| [-] +ARG2 Standards for teaching | Student names | Wed Oct 6, 2004 1:48 pm |
| [-] +But Clarification? | Student names | Sun Oct 10, 2004 5:39 pm |

strongest arguments following each debate. The goal of each debate was to critically examine design issues, concepts and principles in distance learning. Students were instructed to identify each message by team membership by prefacing each message heading with a "-" for opposing or "+" for supporting team (e.g., +ARG, -ARG) followed with labels ARG, BUT, EXPL and EVID to identify each posting by dialog move. The tags enabled students to easily locate the exchanges between opposing and supporting teams during the debates (e.g., +ARG→-BUT) and respond to the exchanges to advance their team's position. Students' labeling accuracy was high (Cohen's $k=.86$).

ANALYSIS

The postings from 1557 messages were copied into MS Word to count the number of grammatical/spelling errors per message. The writing ability of each student was based on the total number of errors ($M = 4.96$, $STD = 6.99$) observed across all the student's postings divided by the total number of words ($M = 513.39$, $STD = 565.8$) contributed by the student. The students were rank ordered on writing ability and the median score was used to divide the students into low ($n = 29$) and high ($n = 43$) ability group.

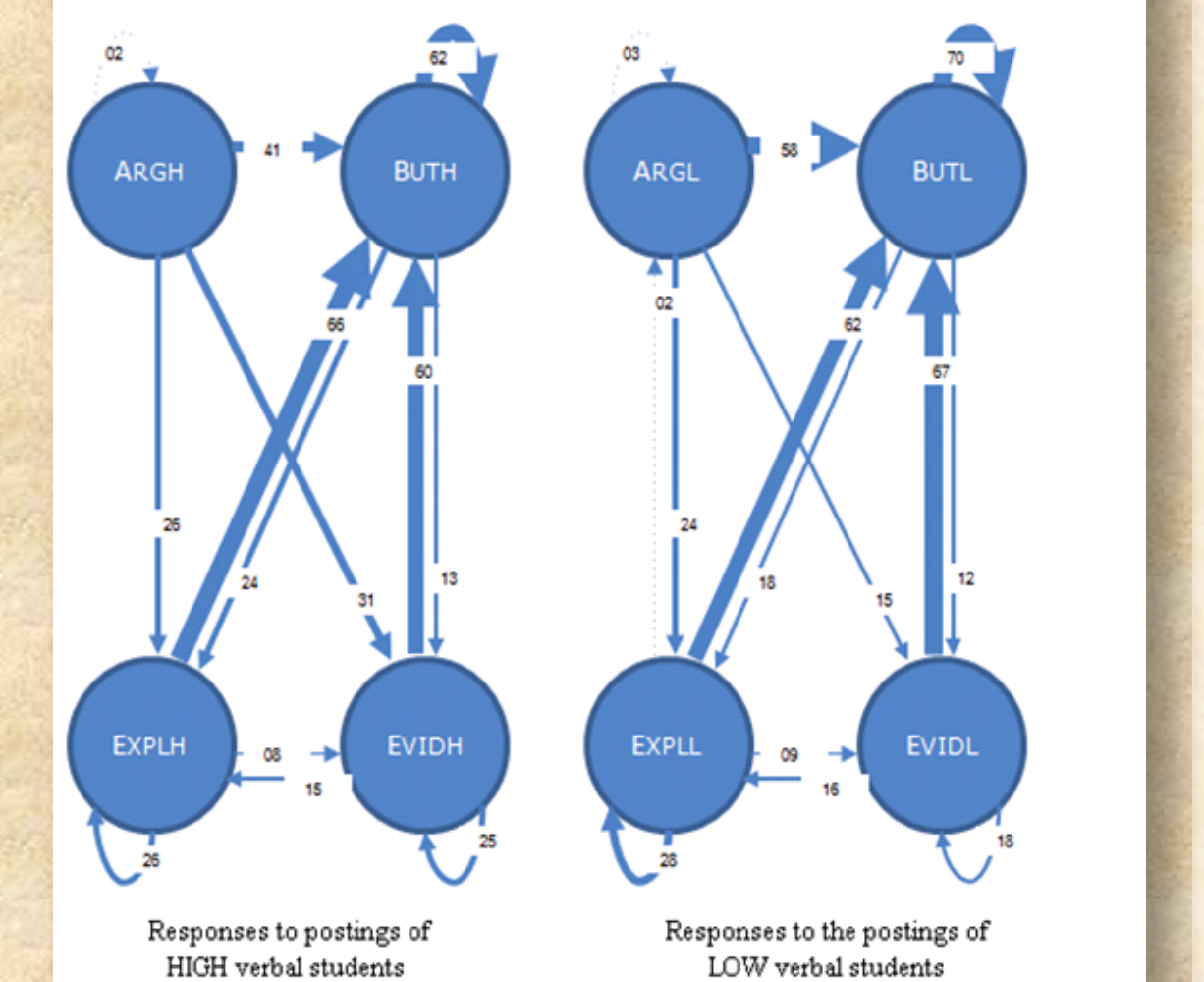
RESULTS

Question #1

Differences in response distributions to ARG posted by low vs. high ability students, $\chi^2(3) = 18.1$, $p = .000$

Significant difference in mean number of challenges posted in reply to ARG posted by low ($M = .93$, $STD = 1.03$, $n = 112$) vs. high ($M = .59$, $SD = .82$, $n = 248$) ability students, $t = -3.30$, $df = 358$, $p = .001$ ($ES = +.18$)

Figure 2. Transitional state diagrams revealing patterns in responses to messages posted by high versus low verbal students

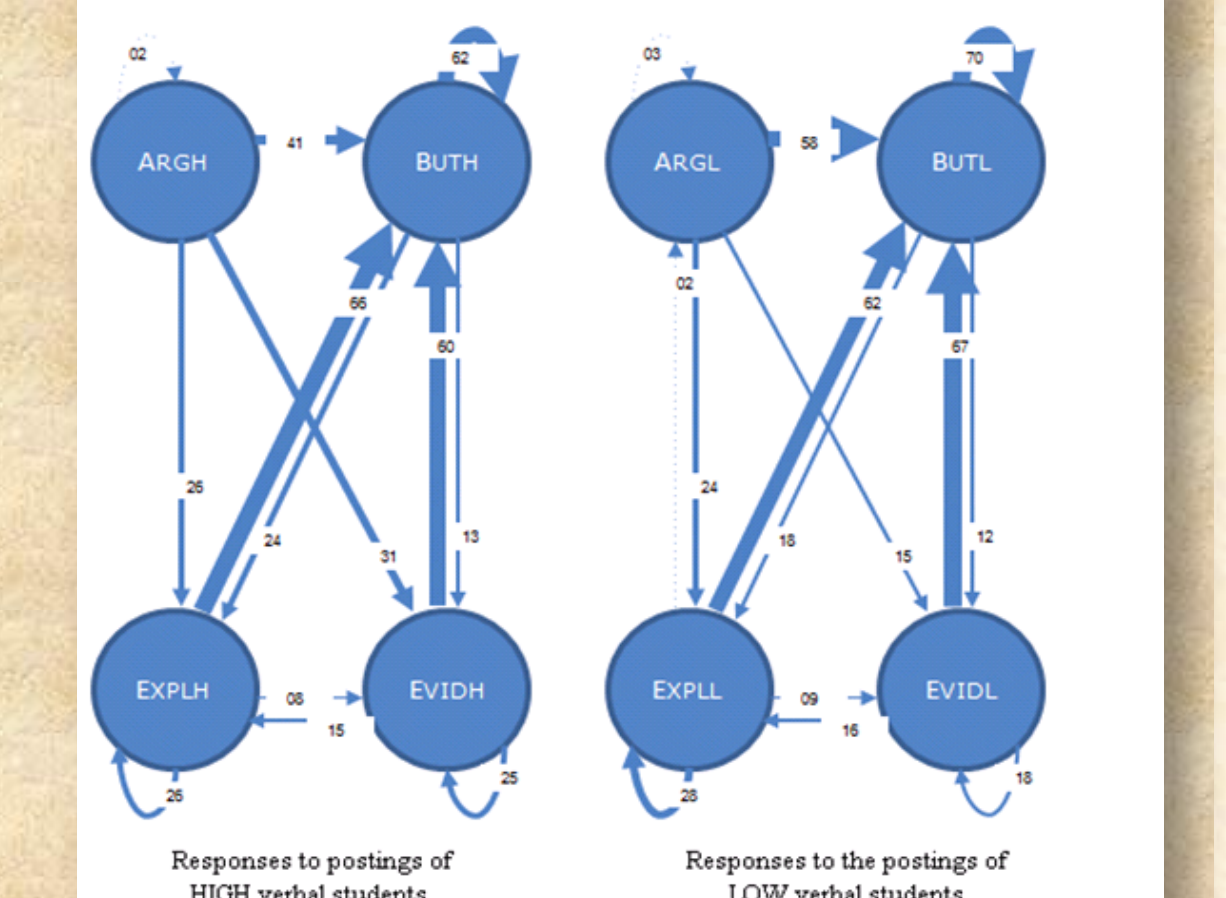


Question #2

Significant differences in the distribution of responses to ARG ($\chi^2(3) = 19.8$, $p = .000$) and BUT ($\chi^2(2) = 9.92$, $p = .007$)

No significant differences in the mean number of BUT posted in reply to ARG posted by low vs. high ability students, and BUT replies to BUT posted by low vs. high ability students

Figure 2. Transitional state diagrams revealing patterns in responses to messages posted by high versus low verbal students



DISCUSSION

The findings are not conclusive given that the quality of the postings (accuracy, relevance, veracity) and the joint effects on how students respond to postings have not yet been evaluated. Nevertheless, our findings still suggest that grammatical and spelling errors can affect student-student interactions. As for the instructional implications, students should minimize errors by using the spell checker while doing their best to focus less attention on grammatical and spelling errors and more attention on the substantive nature of postings to fairly evaluate the ideas of all participants.