THE EFFECT OF SPEAKING ORDER ON SUCCESS

IN FORENSICS COMPETITION

By

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ABSTRACT

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An experiment was performed to determine the relationship between
speaking order and two measures of success in forensics competition.
As hypothesized, the relationships between speaking order and both
rank assignments and quality ratings were statistically significant.
A recency effect was predicted and found. Variation in the quality
of speakers was a more powerful determinant of success than speaking
order was, but it is clear that speaking order influences the outcomes
of forensics competition.

Accepted by the faculty of the Department of Communication,
College of Communication Arts, Michigan State University, in partial
fulfillment of the requirements for the Master of Arts degree.

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Director of Thesis

This thesis is dedicated to my parents,
Leon and Patricia Hale.

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This thesis would not have been completed without contributions from my mentors, colleagues, and family. Those individuals and their contributions merit recognition.

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Dr. Franklin Boster and Dr. John E. Hunter took two days out of their summer to help analyze these data. They also fed me well for two

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CHAPTER I

REVIEW OF LITERATURE

Introduction

Forensics mentors have long believed that speaking order and
success in forensics competition are related. The explanations for
that presumed relationship focus on the extreme speaking positions.
For example, some coaches argue that the final speaker has an advan-
tage because his or her speech is more likely to stand out in the
minds of critics than previous speeches. Others have argued that
the first speaker has an advantage because the speech is used as the
standard for comparing subsequent speeches. At the heart of these
and other possible explanations is the notion that, in addition to
the quality of the presentation, speaking order influences the out-
comes of forensics competition. Despite a lack of empirical support,
the assumption that speaking order is related to success in forensics
is as widely held today as it was forty years ago when the relationship
was first investigated (Knower, 1940).

The issue of order effects in forensics is most often associated
with individual events as opposed to team events, e.g., debate.
Individual events fall into two broad categories, prepared events
or those in which the speakers have prepared their speeches before

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the forensics tournament has begun and unprepared events speech topics
which are randomly assigned to speakers. The speeches are prepared
just prior to each round of competition. In both prepared and
unprepared events, people usually speak on different topics.

Research on the relationship between speaking order and success
in forensics competition is warranted for two reasons. First, the
effect of speaking order is an important issue in forensics, and the
assumption that speaking order influences success is widely held.
Previous investigations of the relationship between speaking order
and success in forensics have reported confusing, contradictory,
and inconclusive results. Second, the question of order effects is
important in settings other than forensics. For example, a number of
political forums employ a format where successive speakers address
a single issue. Research on order effects is germaine to those
contexts as well.

Previous literature points toward two possible explanations
as to why speakers in extreme speaking positions might have an
advantage over other speakers. Both involve forgetting which
is induced by interference of other messages. The first may be
referred to as retroactive inhibition, where recall of what is
presented first is reduced because of interference from subsequent
stimuli. The latter explanation is proactive inhibition, or reduced
recall of later messages because of interference induced by previous
stimuli (Burgoon, 1975).

Retroactive Inhibition: A General Recency Effect

The first investigation of the effect of message order on persuasion was conducted by Lund (1925). He presented subjects counterbalanced pairs of diametrically opposed messages on one of four topics. Lund concluded that, regardless of topic, subjects were more favorable toward the position advocated in the first of two messages. Cromwell (1950) using a similar experimental paradigm, found evidence of a recency effect. Subjects in that experiment were more favorable toward the position advocated in the second of two opposing messages. Subsequent investigations on message order and persuasion reported conflicting results. Hovland, Mandell, Campbell, Brock, Luchins, Cohen, McGuire, Janis, Feierbend, and Anderson (1957) report a primacy effect on only one of four topics that they tested. That research seemed to rule out any general principle of primacy, and enumerated the conditions under which primacy or recency effects could be expected.

Miller and Campbell (1959) extended the work of Hovland et al. (1957) by suggesting that a general recency principle existed, and that the magnitude of the recency effect was a function of the time interval between messages, and of when the evaluations of the messages took place. By applying the accelerated forgetting curve developed by Ebbinghaus (1913) and its implications for the strength of competing associations, Miller and Campbell suggested that as the time interval between the presentation of messages increased the strength of the recency effect would also increase, and that as the time interval

between the presentation of the last message and the evaluation of the messages increased, the recency effect would be strengthened. The theoretical position developed by Miller and Campbell exemplifies retroactive inhibition. The message order effect is a function of the strength between competing associations. Miller and Campbell argued that the time interval between speeches and between the last speech and the evaluation of the messages determined the amount of interference that would occur. The amount of interference, in turn, determined whether the recency effect would be weak or strong.

To test their predictions Miller and Campbell (1959) presented subjects with a summarized law case. The case summaries of approximately equal length were recorded by the same speaker and were both one-sided. Message order was counterbalanced. The time interval between the two summaries and between the last summary and the evaluation of the summaries were manipulated so that four conditions were created for each message order. The first condition presented the summaries in immediate succession with evaluation immediately after the second summary. The second condition presented the summaries in immediate succession but delayed the evaluation of the summaries for one week. In the third condition, messages were presented one week apart and the evaluation occurred immediately after the last summary. In the final condition, the summaries were presented one week apart and the evaluation of the summaries occurred after one additional week. Five hypotheses were tested. They can be summarized in the following statements of inequality: $3 > 4$, $3 > 1$, $3 > 2$, $1 > 2$, and $4 > 2$.

The dependent measures included an attitude measure and a recognition measure. The five hypotheses were supported for the attitude measure, but were only partially supported for the recognition measure. For the recognition measure, the time interval between the last message and the evaluation of the two messages was of little consequence.

Insko (1964) tested the general recency principle posited by Miller and Campbell (1959) using counterbalanced summaries of a legal case and the same experimental conditions used by Miller and Campbell. Insko included an attitude measure and an information retention measure as dependent variables. Those data suggested that as the time interval between presentations increased so did the recency effect. That finding was consistent for both the attitude measure and the information retention measure. Delaying the evaluation of the messages did not influence the recency effect.

Bateman and Remmers (1941) reported data which were partially supportive of retroactive inhibition. They investigated the attitudes of high school students toward labor unions after presenting the students with two competing messages. They found that when attitudes were measured immediately after two successive messages there was a recency effect. The recency effect dissipated when the measurement was delayed two months. Message order was not counterbalanced, however, and no control group was included in the research, so it may be that the position in the second message was more persuasive, and that message order was of little consequence.

Using a somewhat different experimental paradigm, Burgoon (1975)
found evidence of retroactive inhibition. She presented subjects
with opposing messages on civil defense. To test proactive versus
retroactive inhibition, subjects were assigned to one of three groups.
The first group received the two messages and was asked to recall the
first message (retroactive inhibition). The second group received
the two messages and was asked to recall the second message (proactive
inhibition). The last group, a control group, received one of the two
messages and a second irrelevant message. They were asked to recall
the first message. Message order was counterbalanced in each of the
experimental conditions. Before beginning the experiment a pretest
attitude measure was given. Attitudes were measured again after the
first and second messages were presented. Burgoon found that both
recall and attitudes were significantly enhanced in the retroactive
inhibition condition.

Each of the studies reviewed above suggest that when competing
messages are presented, a retroactive inhibition process operates.
For forensics competition, that implies that a recency effect ought
to be present, or that speakers speaking near the end of a panel of
competitors should fare better than those speaking early on.

Proactive Inhibition: A Primacy Effect

Underwood (1957) argued that proactive inhibition could be used
as an alternative explanation to Ebbinghaus' of forgetting in verbal
recall. While Ebbinghaus (1913) made the point that recall would be

influenced by the subject's experiences between the time the last stimulus was presented and recall was attempted, Underwood suggested that recall would be influenced by previous experiences. For example, if a twenty-four hour delay was present between the presentation of competing associations and the attempted recall, Underwood posited that a subject was much more likely to have learned something in the years prior to the experiment which would interfere with verbal recall, than to have learned something in the twenty-four hours after the experiment. That conclusion was drawn from a series of Underwood's previous studies (1952, 1953a, 1953b, 1953c; Underwood & Richardson, 1966). In those experiments, as the number of word lists learned by the subject prior to the recall increased, the ability of the subject to recall the final list decreased.

While the recall of word lists is dissimilar to the evaluation of speeches, the implication for forensics contests from Underwood's research is clear. That is, attending to a number of speeches may inhibit the critic's ability to recall and evaluate the final speech. Retroactive and proactive inhibition are two competing explanations for why an order effect in forensics competition might be anticipated. The former predicts a recency effect, while the latter predicts a primacy effect. The question of which is most applicable to forensics competition is worthy of research efforts. The results of the research reported suggests that proactive inhibition may operate for rote learning tasks, but that retroactive inhibition occurs when one is learning and evaluating entire messages.

Forensics Research on Order Effects

A final body of relevant literature, albeit small, directly addresses the issue of order effects in forensics. Three studies have investigated the relationship between speaking order and rank assignments. The first inquiry was conducted by Knower (1940). His data were ranks assigned to competitors in five National individual events tournaments. Three conclusions were offered from that research. First, the next to last speaking position was the most advantageous. Second, speakers in the extreme speaking positions were more likely to be assigned an intermediate rank than an extreme rank. Finally, the fourth, fifth, and sixth speakers were more likely to be assigned a rank of first than other speakers.

Benson and Maitlen (1975), in criticizing Knower's findings, noted that the conclusion that first and last speakers were more likely to receive an intermediate rank than an extreme rank is a function of mathematical probability and not necessarily evidence of an order effect. In any group of five or more speakers the probability of being assigned an intermediate rank is greater than the probability of being assigned an extreme rank. For example, in a group of eight speakers the probability of being assigned a rank of second through seventh is .75, and the probability of being awarded a rank of either first or eighth is .25.

Benson and Maitlen (1975) also pointed out that Knower (1940) reported only the frequency with which a speaking position was assigned a particular rank. No tests of either statistical significance or

strength of effect were performed on the data. It is difficult to determine from the manner in which the data were reported, whether the observed differences were greater than would be expected by chance, or whether the relationship between speaking order and ranks is as strong as the verbal conclusions would lead one to believe.

A second investigation by Becker (1953) examined the relationship between speaking order and rank assignments from twenty-two years of Northern Oratorical League competition. Chi square tests were performed on each ordinal position. Becker found that the obtained rank assignments differed significantly from the theoretical distribution of ranks for the first two speaking positions but not for the latter four. In eyeballing the distribution of rank assignments in Becker's research, it appears as if the first speaker is less likely than other speakers to be awarded a rank of first or second, and is much more likely to be awarded an intermediate or lower rank. However, the chi square test cannot identify which rank assignments caused the statistically significant difference, but only determines whether or not the difference exists.

The most recent of the investigations of the effect of speaking order on rank assignments was conducted by Benson and Maitlen (1975). Their data from two individual events tournaments reported five specific conclusions: (1) that there was no statistically significant relationship between speaking order and intermediate rank assignments, (2) that there was no statistically significant relationship between

speaking position and receiving a rank of first in groups of four, five, or six speakers; (3) that there was no relationship between speaking order and being assigned the lowest rank in groups of four, five, or six speakers; (4) that in comparing preliminary rounds of competition to semi-final and final rounds of competition a signif-icant relationship between speaking order and being assigned a rank of second was observed in preliminary but not in advanced rounds of competition; and (5) that when prepared and non-prepared events were compared, speaking order and rank assignments were not related.

While each of the three investigations reviewed reported some order effects, the latter two studies found that those effects were much more limited than Knower's research did. Unfortunately, the statistical techniques used to conduct the analyses may have masked more pervasive order effects when they did, in fact, exist. Becker analyzed those data using a chi square one-sample test. Benson and Maitlen analyzed those data using both the chi square one-sample test and the Kolomogorov-Smirnov one-sample test. The application of those statistical tests was problematic because they needlessly increase the probability of making a Type II error. This was true for two reasons. First, separate significance tests were performed for the distribution of rank assignments on each individual speaker position. One test of ranks assigned across all speaker positions would have been more mean-ingful. Rank assignments may differ across all speaker positions, without significant differences being found for individual speaking positions. By neglecting the possibility of an omnibus effect, a

conclusion that order effects were virtually nonexistent, or that they were limited to two speaking positions may have been misleading.

Second, the statistical tests employed were less powerful than other available techniques. The chi square one-sample test is a statistical test used to analyze nominal data, and the Kolomogorov-Smirnov one-sample test is used to analyze ordinal data. While rank assignments are ordinal in nature, a convincing argument can be made for assuming equal intervality between ranks. When directors of forensics tournaments determine which contestants will advance to semi-final or final rounds of competition, they treat rank assignments as if the intervals between ranks were equal. Since that assumption is made for practical use, there is no reason that it should not be made for statistically testing the relationship between speaking order and rank assignment with more powerful interval-level tests.

One final criticism which may be leveled at each of the three studies is that they included only one measure of success in forensics competition. Most forensics tournaments use more than one success measure to increase the variance between speakers so that decisions about which speakers advance beyond preliminary rounds of competition are easier to make. By neglecting quality ratings, or some other form of success measurement other than rank assignments, previous research did not fully address the question of whether or not speaking order influenced the outcomes of competition.

Conclusions and Hypothesis

Previous research on the relationship between speaking order and success in forensics competition has led to conflicting and equivocal findings. Knower (1970) suggested that order effects were rampant. Becker (1953) argued that order effects were present for only two of six speaking positions. Benson and Maitlen (1975) found that order effects were almost nonexistent. Research from adjacent areas of concern provide a clearer picture of the results that might be expected in an experiment on the effects of speaking order. That research suggests that speaking order should influence the evaluation of speeches. More specifically, research on retroactive inhibition suggests that a statistically significant recency effect should occur. Hence, the following hypothesis was tested:

> As speaking recency increases speeches will be more
>
> positively evaluated.

Two success measures were included. More specifically then, as speaking recency increased, it was expected that both rank assignments and quality ratings would improve.

CHAPTER II

METHODS

Sample

Subjects were 174 undergraduate students enrolled in the basic
communication course at Michigan State University. The subjects
received extra credit in the basic course in exchange for their
participation in the experiment. The basic course is mostly composed
of lower division students, and includes instructional units on
message construction, public speaking, and nine other aspects of
communication which were less relevant to the experiment.

Stimuli and Design

Six persuasive speeches were videotaped for use in the experiment.
The speakers included three undergraduate students from a public
speaking course, and three graduate assistants from the Department
of Communication. All six speakers were white males. The six speeches
were on the effects of televised violence on the behavior of children.
Each speech was organized in a problem-solution format, constructed
from the same resource materials, and ranged in length between five
and seven minutes.

The videotaped speeches were spliced together forming six stimulus
tapes and a 6 x 6 x 6 (speakers, orders, conditions) Latin Squares

experimental design. Subjects were crossed with speakers and order, but were nested within experimental conditions.

Instrumentation

The success of a speaker was measured in two ways, each of which is frequently used in forensics competition. First, speakers were rank ordered according to quality. The best speaker was awarded a rank of 1st, the next best speaker 2nd, . . . , the worst speaker 6th. No ties in rankings were permitted. Cromwell (1952) reported Spearman-Brown rank order correlations between judges ranging from .46 to .87, depending upon the number of judges assigning ranks.

The second measure of success was a quality rating. Each speaker was rated as being superior, excellent, good, fair, or poor. As a referent to aid subject in making quality ratings, subjects were asked to rate each speaker in comparison to other college students that they had heard delivering public speeches. Ties in quality ratings were permitted. In summarizing literature which used quality ratings as measures of success, Cromwell (1952) reported Spearman-Brown rank order correlations between .55 and .77.

Procedures

Subjects reported to a conference room that was comfortably furnished and which was approximately 30 feet x 20 feet. Subjects were seated around a large rectangular table. Seats were arranged so that each subject had a clear view of the videotape monitor.

Each session was begun by the experimenter greeting the subjects and briefly explaining the tasks that would follow. The experimenter explained that the subjects would see six videotaped public speeches. The topic, format, and approximate length of the speeches were revealed.

Subjects were instructed to take notes on each of the presentations. They were told that the notes should include things about each speech that the speaker did well or needed to improve, and that they should note the content. The subjects were forewarned that they would be asked to evaluate the quality of each speech, and that they would be tested for information retention upon completion of the videotape. Note taking materials were provided to the subjects. The experimenter asked if there were any questions. After answering questions the experimenter started the videotape and left the room.

When the videotape had ended, the experimenter returned and distributed the success measures. The measures were accompanied by written instructions. Subjects were asked to read the instructions which were also orally reviewed by the experimenter. The experimenter asked if there were any questions. After all questions had been answered the subjects completed the success measures.

When each subject had completed the success measures, the experimenter distributed an 18 item multiple choice measure of information retention. Again, subjects were instructed to read the test instructions. The experimenter reviewed the instructions, and asked if there were any questions. After answering all questions,

subjects completed the information retention measure. Subjects were allowed to use the notes that they had taken to complete the measure.

After completing the information retention measure, subjects were given a written debriefing statement. The debriefing statement explained the hypothesis of the experiment, pledged the participants to silence about the nature of the experiment, and thanked them for their participation. The experimenter answered any questions that subjects had and then terminated the session.

CHAPTER III

RESULTS

The data were analyzed using a repeated measures analysis of variance. The Latin squares design permitted the calculation of five main effects: an effect for speaking order, an effect for speakers, one for experimental condition, a between subjects effect, and a within subjects effect.

Effect of Speaking Order on Quality Ratings

The means for speaking order, speakers, and experimental condition are shown in Tables 1 and 2. The pattern of means for speaking order offer support for the hypothesized recency effect. Lower quality ratings are indicative of a better rating. Each successive speaking position has a mean quality rating that is slightly lower than the mean rating for the previous speaking position.

The results of the analysis of variance produced two statistically significant main effects. A statistically significant main effect for speaking order emerged, as did an effect for speakers. The analysis of variance results are shown in Table 3. The η^2 values for the two effects were .02 and .26, respectively.

Table 1

Speaking Order x Speaker Means for Quality Range

Speaker	1	2	3	4	5	6	$\overline{X}$
1	3.10	3.00	3.19	2.89	2.86	2.77	2.97
2	3.40	2.82	3.20	3.16	2.97	3.03	3.10
3	3.83	3.63	3.76	3.21	3.16	3.31	3.48
4	3.59	3.52	2.93	2.97	3.10	2.52	3.10
5	4.13	4.31	4.17	4.33	4.17	4.38	4.25
6	3.97	3.77	3.69	3.63	3.53	3.62	3.70
	3.67	3.51	3.49	3.37	3.30	3.27	3.43

Variance:

Speaker .1962
Order   .0819
S/Groups .2059
S/Within .6637

Table 2

Speaking Order x Condition Means for Quality Ratings

Condition	1	2	3	4	5	6	$\overline{X}$
1	3.10	2.82	3.76	2.97	4.17	3.62	3.41
2	3.40	3.63	2.93	4.33	3.53	2.77	3.43
3	3.83	3.52	4.17	3.63	2.86	3.03	3.51
4	3.59	4.31	3.69	2.89	2.97	3.31	3.46
5	4.13	3.77	3.19	3.16	3.16	2.52	3.32
6	3.97	3.00	3.20	3.21	3.10	4.38	3.48
	3.67	3.50	3.49	3.36	3.29	3.27	3.43

Variance:

Condition   .0037

Table 3

Speaking Order x Speaker Means Sans Condition Effect

Speaker	1	2	3	4	5	6	$\overline{X}$
1	3.12	2.95	3.30	2.86	2.78	2.77	2.96
2	3.40	2.84	3.15	3.27	2.94	2.95	3.09
3	3.75	3.63	3.78	3.16	3.27	3.28	3.48
4	3.56	3.44	2.93	2.99	3.05	2.63	3.10
5	4.24	4.28	4.09	4.33	4.19	4.33	4.24
6	3.92	3.88	3.66	3.55	3.53	3.64	3.70
	3.67	3.50	3.49	3.36	3.29	3.27	3.43

Interaction effects are difficult to calculate with a Latin squares design because the relevant factors are confounded with experimental conditions. To calculate the speaker x order interaction effect, the effect for experimental condition was subtracted from the speaker means. Since the effect for experimental condition was minute, it could be subtracted from the speaker means and a relatively accurate speaker x order interaction effect could be calculated. The speaker and speaking order means, sans condition effects, are shown in Table 4. The speaker x order interaction effect was not statistically significant.

As predicted, there was a relationship between speaking order and quality ratings. A recency effect was predicted, and the means and analysis of variance results clearly indicate that a recency effect was operating.

Effects of Speaking Order on Rank Assignments

The means for speaking order, speakers, and experimental condition are shown in Tables 5 and 6. As was the case for the previous dependent measure, the pattern of means for speaking order support the hypothesized recency effect. Lower rankings are indicative of better speeches. Each successive speaking order has a mean ranking that is smaller than the mean for the previous speaker.

The analysis of variance for speaker rankings resulted in two statistically significant main effects. The main effect for speaking order was statistically significant and produced an η^2 value of .02. A significant effect for speakers was also observed and produced an

Table 4

Analysis of Variance Results for Quality Measures

Source	Sum of Squares	df	MS	F	η^2
Between Variation:					
Speaker	204.83	5	40.97	50.85*	.22
Order	19.73	5	3.95	4.90*	.02
Within subjects	692.90	860	.81	----	.76
Between totals	917.46	870	----	----	1.00
Within Variation:					
Condition	3.86	5	.77	.60	.02
Speaker x order	26.04	25	1.04	.41	.11
S/condition	214.96	168	1.28	----	.87
Within totals	244.86	198	----	----	1.00
Totals	1,136.28	1,043	----	----	2.00

*p < .05.

Totals do not include speaker x order interaction effect except for η^2.

Table 5

Speaking Order x Condition Means for Rank Assignments

Condition	1	2	3	4	5	6	$\bar{X}$
1	3.00	2.41	4.03	2.83	4.76	3.97	3.50
2	3.50	3.83	2.63	5.23	3.70	2.10	3.50
3	4.03	3.31	4.76	3.63	2.41	2.86	3.50
4	3.45	5.24	4.17	2.66	2.31	3.17	3.50
5	5.19	4.33	3.23	2.90	3.45	1.87	3.50
6	4.51	2.48	2.83	3.14	2.76	5.21	3.49
	3.95	3.60	3.61	3.40	3.23	3.20	3.50

Variance:

Condition .0000

Table 6

Speaking Order x Speaker Means for Rank Assignments

Speaker	1	2	3	4	5	6	$\bar{X}$
1	3.00	2.48	3.23	2.60	2.41	2.10	2.65
2	3.50	2.41	2.83	2.90	2.31	2.86	2.81
3	4.03	3.83	4.03	3.14	3.45	3.17	3.61
4	3.45	3.31	2.63	2.83	2.76	1.87	2.80
5	5.19	5.24	4.76	5.23	4.76	5.21	5.07
6	4.51	4.33	4.17	3.63	3.70	3.97	4.05
	3.95	3.60	3.61	3.40	3.23	3.20	3.50

Variance:

Speaker   .7447
Order   .0662
S/Groups .0000
S/Within 2.1066

η^2 value of .26. The results of the analysis of variance for rankings is shown in Table 7.

For rank assignments there could be no effect for experimental condition. With six speakers in each condition, and no ties in rankings permitted, the mean for each experimental condition was constrained to equal 3.50 within rounding error. The speaker x order interaction effect was calculated in the normal way from the means in Table 5. The interaction effect was not statistically significant.

A statistically significant recency effect was predicted for the relationship between speaking order and rank assignments. The pattern of mean rank assignments and the analysis of variance results are both supportive of the hypothesized relationship.

Table 7

Analysis of Variance Results for Rank Assignments

Source	Sum of Squares	df	MS	F	η^2
Between Variation:					
Speaker	777.47	5	155.49	60.74*	.26
Order	69.11	5	13.82	5.40*	.02
Within subjects	2,199.29	860	2.56	----	.72
Total between	3,045.87	870	----	----	1.00
Within Variation:					
Condition	.00	5	.00	.00	.00
Speaker x order	78.94	25	3.16	1.23	1.00
S/condition	.00	168	.00	----	.00
Within total	78.94	198	----	----	1.00
Totals	3,045.87	1,043	----	----	2.00

*$\underline{p}$ < .05.

Totals do not include speaker x order interaction effect except for η^2.

CHAPTER IV

DISCUSSION

Literature on retroactive inhibition suggested that a statistically significant recency effect would emerge from these data. The patterns of means and the analyses of variance clearly supported the hypothesized effect. The means for both rank assignments and quality ratings decreased for each successive speaking order. The decreasing means were indicative of a recency effect.

These results indicate, as Knower (1951) and Becker (1953) argued, that speaking order does influence the outcomes of forensics competition. The later the speaking position, the more successful the speaker is likely to be. As would be expected, the quality of the presentations is a much stronger determinant of success in forensics competition. However, speaking order does have an observable influence.

The argument was made in reviewing relevant literature, that the insignificant findings reported by Benson and Maitlen (1975) may have been a Type II error. The results reported here are supportive of that position. By not performing an omnibus test for order effects, Benson and Maitlen may not have detected a small order effect when, in fact, one existed. These data are excellent case in point. The omnibus test computed with the analyses of variance was able to detect a statistically significant, but small order effect.

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These data have implications not just for forensics competitors, but for other public communication forums as well. In a number of public forums, e.g., the activities of legislative bodies, speakers address the same issue in immediate succession. These results suggest that if the quality of the presentations is equal, the speakers speaking later will be evaluated more favorably.

Limitations

While the results of this research have clear and useful implications, it is not without shortcomings as well. Perhaps the most significant shortcoming is that a theoretical framework was used to develop the rationale and hypothesis, but that specific theoretical position was not tested in a way that would yield useful knowledge about the theory. The results obtained in this research are consistent with those predicted by retroactive inhibition. However, whether the differences observed are due to forgetting, or interference of subsequent messages cannot be determined. While a measure of recognition was included, the results of the analysis of variance for that measure were not reported with the other results obtained.

Typically in forgetting research subjects are either given some sort of recognition task, e.g., a list of words, and are asked to identify words which they had previously learned, or they are given a recall task. The retention measure employed in this research was an 18 item multiple choice test. Subjects were allowed to take notes on each of the speeches, and were allowed to use those notes while

completing the retention measure. For that reason, the retention measure was not a recognition measure in the true sense, nor was it a recall measure. Most likely it measured how well the subjects took notes. For that reason, the retention measure was not a fair test of retroactive versus proactive inhibition.

A second shortcoming was that subjects did not complete demographic measures. There is no reason to predict that males and females would react differently to the speeches, so sex and other demographic measures that might have provided useful post hoc comparisons of the data were not gathered.

Finally, there will be those who question the external validity of this research. They will doubt the generalizability of videotaped speeches in one forensics event, extemporaneous speaking, to live forensics competition in both prepared and unprepared forensics events. The external validity of the research will also be questioned because in most forensics tournaments with individual events speakers do not speak on the same topic. This criticism seems valid since different speaking formats or a variety of issues could lead to differences in cognitive processing. Before these results are unnecessarily limited in scope, however, some cognitive processing rationale for the anticipated differences ought to be advanced.

A single speech topic and format, as well as the decision to videotape the speeches seemed necessary to enhance the internal validity of the research. For example, if the speeches were not videotaped then they would have differed in quality and perhaps

content from one experimental condition to the next. The use of videotapes insured that the speeches seen by subjects in the first experimental condition were like those seen in the other experimental conditions. The single speech topic and format helped insure that the observed differences were due to speaking order and not some other variable. It should also be noted that each speaker was visible from the waist up, and in enough detail so that facial expressions, gestures, and random body movements could be seen.

Directions for Future Research

The largest effect observed in this study was the effect for speakers. Speakers was a random effect in that no effort was made a priori to determine whether speakers differed significantly from one another on any series of qualities. It would be interesting if future research manipulated speaker quality and speaking order to determine whether the two variables interacted in some way that is theoretically important. It may be that poor speakers are rated better if they are speaking in the middle position as opposed to an extreme one. This research could not test such questions because the quality of the speakers was not varied in a systematic way.

Other research has demonstrated that one's attitude toward the topic (Burgoon, 1975), familiarity with the topic (Rosnow & Lana, 1965), and interest in the subject matter (Lana, 1963) interact with presentation order in the classical primacy-recency research paradigm. Including those and other relevant variables in future research seems worthwhile.

Concluding Remarks

This research indicated that speaking order did influence both rank assignments and quality ratings given to a series of speeches. That finding has implications for both forensics competition and public policy forums. More recent speakers tend to be evaluated more positively than speakers who have preceded them. This does not mean that forensics competitors speaking first cannot win. It does mean that they would be evaluated more positively if they were speaking later. However, as one might expect, differences in the quality of the speakers is a more potent determinant of success than speaking order. It would seem much more prudent for speakers to practice their speech than it would be for them to spend their time worrying about the position that they are speaking in.

APPENDIX

MEASUREMENT ITEMS

APPENDIX

MEASUREMENT ITEMS

Speaker One

Please rank this speaker in relation to the other speakers on the videotape.

<div align="center">

1st   2nd   3rd   4th   5th   6th
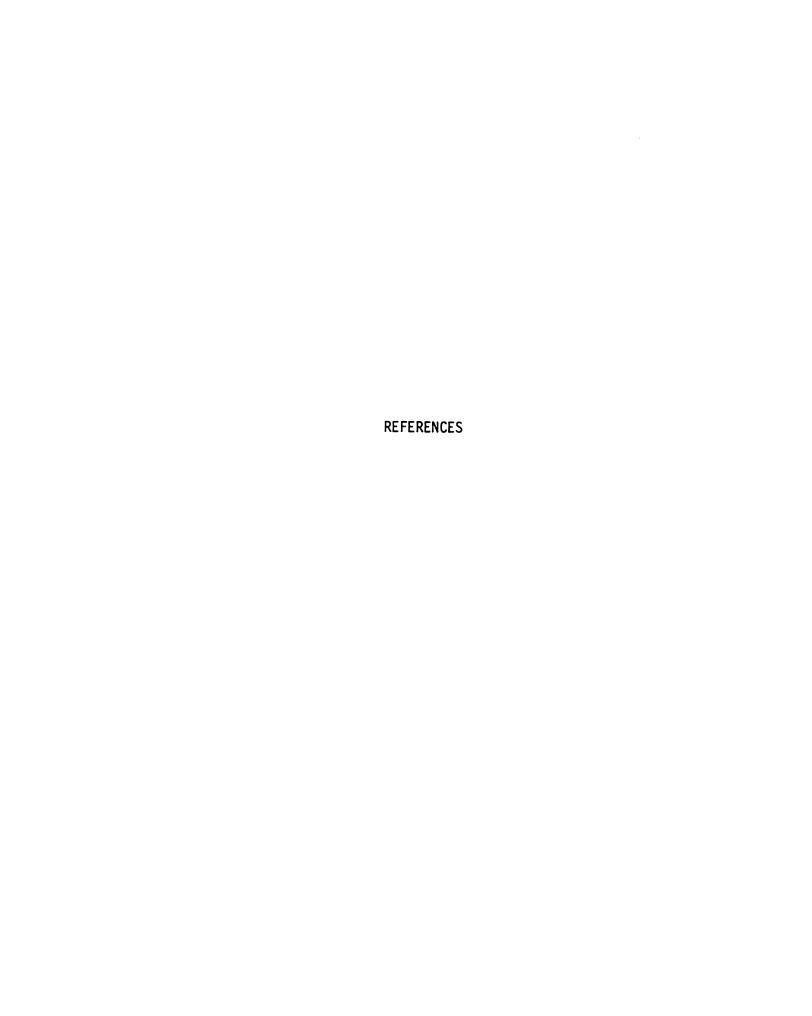
Circle one rank. No ties are permitted.

</div>

Please rate this speech in relation to speeches given by other college students.

<div align="center">

Superior   Excellent   Good   Fair

Circle one rating. Ties are permitted.

</div>

Comments:

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