

Experiential Learning Enters the Eighties, Volume 7, 1980

UNTESTED HYPOTHESES: AN APPROACH TO EXPERIENTIAL LEARNING

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ABSTRACT

This paper describes a somewhat complex approach to experiential learning developed in 1976 at The National Defense University. The "untested hypothesis," an intentionally provocative description of an issue relating to management and leadership, is used to stimulate thought and controversy. After opportunities for discussion, participants in the learning process are requested to "vote" on the accuracy of the hypothesis. The "votes" are then counted and fed back to participants for further discussion, analysis, and contemplation.

INTRODUCTION

Active and experiential learning techniques take many forms. Most are designed to integrate into the learning process three vital components--content, experience, and feedback. This paper describes a two-phase teaching methodology which, while designed to achieve unique educational objectives, may have utility in the examination of a variety of subjects.

BACKGROUND

The basic idea was generated in 1976 during the design of management-related portions of the curricula of the two colleges at the National Defense University in Washington, D.C. The students of the two colleges-- all highly successful and competitively selected military and civilian mid-level public sector managers and leaders--were to be intermixed for this portion of the academic program.

THE CHALLENGE

Curriculum planners sensed a significant challenge in developing a program which provided for learning, challenge, stimulation and the personal involvement of each student. Success in the subject at hand--management and leadership--had been the primary selection criterion for the student body. Further, approximately 70 percent of the students possessed Masters degrees--many of these in management-related disciplines. Success of the introductory session, in particular, was viewed as critical to gaining the approval, and hence the complete involvement, of a highly professional and therefore often critical group of students. This paper focuses upon the methodology employed for that introductory session--actually two sessions.

LEARNING OBJECTIVES

Curriculum planners determined that an appropriate introductory subject was a review and analysis of major contemporary challenges which face Department of Defense

(DOD) officials and thus influence their styles of management and leadership. A variety of standard educational methodologies were considered and rejected for various reasons. After considerable debate, it was determined that such a session (or sessions) should include the following features:

Open discussion of critical management/leadership related issues which Federal Government executives at high levels must recognize and address personally.

Recognizing that there are few, if any, recognized "experts" in the field of management and leadership, at least a degree of involvement and input from those who teach both theory and practice.

Recognizing that individual perspectives of management and leadership are, to a large degree, based upon personal experiences, the opportunity for students to compare their viewpoints with those of their peers--to "test" their positions on various issues against the "collective wisdom" of a wide variety of particularly successful managers and leaders in the public sector.

INITIAL PREPARATIONS

Having achieved consensus concerning objectives, curriculum planners organized the "educational module" as indicated below:

Two sessions were allocated to the subject--a two-hour auditorium session on a Friday for the combined student body; a 90-minute follow-on session on the Monday after the weekend with students organized into instructor-led 16-student seminar groups.

A series of "untested hypotheses," intentionally provocative descriptions (accurate and inaccurate) of the state of the world relating to issues confronting the 1976 Federal Government manager/leader, were developed (see Appendix I).

Machine-readable response forms (see Appendix II) were designed and printed. A computer program which would tabulate, aggregate, and print responses was developed.

A panel of four "experts" on the subject of executive-level management and leadership in both the public and the private sectors was identified and invited to participate in the auditorium session.

Faculty members were oriented on the objectives and the methodology to be employed for the follow-on seminar session on Monday.

¹ The National Defense University operates directly under the Joint Chiefs of Staff, Department of Defense. Its two colleges, The Industrial College of the Armed Forces (ICAF) and The National War College (NWC), conduct ten-month executive-level professional education programs for selected military officers and Federal Government civilians (the typical student is in his/her early 40s and has approximately 18 years of federal service). While each college has a unique mission, portions of each program--those focusing on executive-level management and leadership--are very similar.

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EXECUTION

The first phase of instruction was conducted in an auditorium with the faculties and student bodies of the two colleges present.¹ I served as the coordinator and moderator for the session. The panel of "experts" sat at a table on the stage. As participants entered the auditorium, they were issued the machine-readable form (Appendix II), a paper copy of the same form, and a number 2 lead pencil. After introducing the "experts" and identifying the objectives and methodology of the session, I started introducing the untested hypotheses. I "played a role" supporting all hypotheses (whether or not I personally agreed with them). After the presentation of each hypothesis and supporting rationale, the "experts," who had been provided the hypotheses several weeks earlier, were free to support, oppose, or comment on the issue at hand. Their participation was unrehearsed. Further, students and faculty alike were encouraged to challenge hypotheses, ask questions or offer comments from their seats in the auditorium. After each discussion, all participants were requested to mark their machine-readable cards either "accept," "reject," or "undecided" regarding their estimates of the accuracy of the hypothesis. Further, they were encouraged to mark the duplicate copy for their own future reference. This process was repeated until all hypotheses were addressed. As participants exited the auditorium, they turned in their machine-readable cards. In turn, these were collected and taken to the computer room for immediate processing. Tabulations of responses (Appendix III) were printed by that afternoon (the weekend was available in the event of problems with the computer). Faculty members responsible for seminar sessions the following Monday were briefed on participant feedback by late Friday afternoon. During the Monday seminar sessions, the tabulation of responses (Appendix III) were distributed to students (Appendix III is an abbreviated version of the tabulation provided the students.) These sessions provided students opportunities (a) to discuss the issue further, (b) to compare their own responses with those of their peers, and (c) to analyze the variations in responses among the various groups participating in the activity (military-civilian; students-faculty).

REFLECTIONS ON THE METHODOLOGY

Favorable Features

This approach to learning included some features which contributed to educational objectives under the particular environmental conditions described.

Unlike most auditorium situations, the learning process was active involving the "give and take" of open disagreement and the requirement of all participants to "vote" on controversial issues~

The experience focused on the reality of contemporary challenges to management and leadership--appropriate to the experience level of the student body--rather than principles or research results which many were familiar with through previous educational experiences.

The technique intentionally provoked some emotional responses which stimulated interest and highlighted the subjective nature of management and leadership.

¹The combined faculties and student bodies present included 375 individuals--285 military officers of the various uniformed services (including the Coast Guard) and 90 senior Federal Government civilians from a variety of departments and

agencies.

Variations on the Theme

The key, and hence the unique feature of this methodology is the provocative nature of the untested hypotheses. The process described in this paper is quite complex and requires considerable preparation, coordination, and support. Far simpler approaches in smaller classroom environments with participants "voting" informally have been used and have proved effective.

The technique allowed for the exploration of a wide range of problems and issues--far more diverse than possible in a typical case study or simulation.

The feedback technique provided practitioners in the field of management and leadership an opportunity to compare their own responses to contemporary challenges with those of successful peers. Presumably, this feature contributed to some individual self-analysis after the formal learning experience.

Problem Areas

While the approach was considered to be generally successful, some problems and miscalculations were observed.

In an attempt to design provocative "untested hypotheses" which would stimulate thought and discussion and generate some disagreement, some hypotheses used proved to be far too ambiguous and complex. Participants could agree with portions, but not all, of their messages. In some cases, cause and effect relationships were too tenuous. It should be noted that hypotheses designed primarily for teaching and discussion purposes are not likely to be ideal survey instruments. This fact tends to degrade the effectiveness of the feedback phase of the methodology.

Eighteen hypotheses were introduced during the initial session. This proved to be too many. Toward the end of the session, discussion tended to become hurried and perfunctory as time passed and the novelty of the technique wore off. In retrospect, the examination of ten to twelve of the most relevant hypotheses would have proved more productive.

CONCLUSION

The teaching methodology described in this paper provided for an effective introduction to a complex subject area. Considering the preparation and resources required, its application should be reserved for special learning situations. However, carefully orchestrated, it offers an opportunity to incorporate content, experience and feedback into the learning process while stimulating the student's intellectual and emotional responses.

APPENDIX I

UNTESTED HYPOTHESES CONTEMPORARY MANAGEMENT AND LEADERSHIP

Number 1

The day of the "successful dirty dog" who willfully abuses subordinates in order to achieve his own personal objectives is dying fast. The ability of subordinates to retaliate against perceived injustices is increasing rapidly. In order to survive, successful modern leaders must be able to appeal to and develop loyal followers within their organizations who will provide support when the chips are down.

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Number 2

The manager/leader within the Department of Defense who demands "a day's work for a day's pay" from every individual in his organization has set an unrealistic goal. Bureaucracies, by their very nature, allow for and protect a high degree of malingering, incompetence, and waste. The best the manager/leader can do is to accept the situation and attempt to limit its effect by dealing aggressively with a few extraordinary cases.

Number 3

Contemporary leaders are proving to be unwilling or unable to make tough decisions which affect adversely the welfare of their subordinates. The "veto power" of internal interest groups within organizations is too strong. For this reason, major unpopular decisions are possible only under conditions of genuine, mutually-perceived crisis or by direction of a higher authority.

Number 4

The challenge of effective leadership is tougher than ever before in the past. Whereas the increasing capabilities of subordinates (education, sophistication, etc.) contribute to opportunities for organizations of unsurpassed quality, the ability of mortal humans to harness these complex capabilities is limited to a relative few. For this reason, opportunities to lead/command large numbers of subordinates should be restricted to an elite group of "natural" leaders.

Number 5

Successful contemporary leaders tend to be less individualistic than those in the past. The man/woman with a blemishless past tends to be selected for high positions while those who have sown a few wild oats or have demonstrated immoderate behavior are identified as "high risk" cases and are selected out. As a result, many individuals with great potential leadership are purged from the system while those who survive tend to be colorless conformists who lack the charismatic appeal typical of General Patton of World War II.

Number 6

The leader who believes firmly that "what was good enough for people ten years (months/weeks/days) ago is good enough for them now" is headed for trouble. Whereas the basic values of people are comparatively static, their aspirations and expectations have been stimulated to the degree that they are not satisfied with the conditions and rewards of the past—even the very recent past.

Number 7

The leader who allows or encourages special attention to his/her personal prestige, comfort, convenience or social status exposes himself to criticism which can ruin him/her. Future leaders will increasingly attempt to reduce or conceal the distinctions between their lives and the lives of their subordinates.

Number 8

The leader who is unable to identify informal groups within the organization and to anticipate their attitudes, needs and values leads a precarious existence. Many of these informal groups should be given opportunities to attain recognized formal status and to participate in decision making affecting their members.

Leaders should continually consider changing the existing formal organization to reflect the structures of the informal organization.

Number 9

The day of one-man leadership is dead in all but the most primitive organizations. One person, no matter how talented, cannot know enough to make all decisions. He/she must accept critical information from specialized experts. He/she must be aware of environmental issues only remotely associated with his primary activity. The trend will continue. Increasingly, major decisions will assume committee-like characteristics containing more hedging and less clarity.

Number 10

The only significant difference between men and women is physical. For this reason, there should be little distinction between leadership styles which prove effective for either sex. Within five years there will be absolutely no distinction.

Number 11

Current trends toward increased social justice, permissiveness, legal safeguards, and administrative complexity have resulted in the inability of leaders to punish serious offenders with equity and economy. For this reason, leaders should go to great effort to identify true problem cases early and to eliminate these individuals from organizations with great dispatch.

Number 12

While the average American is a comparatively talented individual, due to the affluence of a post-industrial society, he/she is spoiled, impatient and physically soft. For this reason, America's war fighting capabilities should focus on high-level technology rather than modes of combat which rely on ruggedness and determination under conditions of prolonged discomfort, deprivation, and danger.

Number 13

America is going through a period of moral rehabilitation. For this reason, managers and leaders with high degrees of tolerance for unethical and immoral conduct will be purged from organizations in increasing numbers. This trend will continue for a considerable period of time.

Number 14

Unquestioned association of experience, tenure, prestige, rank, authority, and compensation is counterproductive. The need for specialization, raw knowledge, critical skills, and essential services will create great distortions. Subordinates will earn more than superiors; individuals in selected low-skill jobs will earn disproportionately high pay. Leaders must be sensitive to the impact of such trends and develop techniques which will reinforce egos, reduce anxieties, and satisfy subordinates while responding to changing manpower requirements.

Number 15

Prolonged periods of peace inevitably result in extraordinary demands for individual accountability within the Department of Defense. For this reason, the high-level manager/leader should pay particular attention to the quality of staff advice available to him in the following areas: Financial Management, Legal, Information Technology.

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Number 16

Management by objectives is going to be a way of life in all large organizations. Meaningful objectives require quantification. Objectives which are not amenable to quantification will become irrelevant.

Number 17

The executive-level leader or manager who does not understand at least the basic concepts and logic of computer technology will become a captive of skilled technicians and staff officers who will be capable of usurping his/her power.

Number 18

Modern attitudes toward open communications and modern communications technology have greatly complicated the task of keeping secrets within organizations. Since compromise of most sensitive information (other than classified) is inevitable, leaders/managers will be forced to be extremely candid and receptive to critical comment.

APPENDIX II FACTORS INFLUENCING CONTEMPORARY MANAGEMENT AND LEADERSHIP STYLES

ORGANIZATION:	NWC		ICAF		OTHER
STATUS:	STUDENT		FACULTY		OTHER
CATEGORY:					
MILITARY:	ARMY	NAVY	USMC	USAF	USCG
CIVILIAN:			DOD	STATE	OTHER
	ACCEPT	REJECT	UNDECIDED		
HYPOTHESIS No.	1				
	2				
	3				
	4				
	5				
	6				
	7	(Squares for the entry of data			
	8	typical of machine-readable			
	9	form)			
	10				
	11				
	12				
	13				
	14				
	15				
	16				
	17				
	18				

APPENDIX III TABULATION OF RESPONSES (Percentages of Respondents)

		MILITARY RESPONDENTS				
		ARMY	NAVY	USMC	USAF	USCG
		TOTAL				
Hypothesis	1					
Accept		67	69	83	72	100
Reject		30	25	12	19	0
Undecided		1	5	4	7	0
Hypothesis	2					
Accept		20	17	4	13	0
Reject		70	82	95	86	100
Undecided		0	0	0	0	0
Hypothesis	3					
Accept		34	42	37	54	3
Reject		36	42	54	38	75
Undecided		9	14	8	6	25

		MILITARY RESPONDENTS				
		ARMY	NAVY	USMC	USAF	USCG
		TOTAL				
Hypothesis	4					
Accept		51	57	54	40	50
Reject		47	39	45	56	50
Undecided		0	3	0	3	0
Hypothesis	5					
Accept		60	46	37	45	50
Reject		29	39	50	50	50
Undecided		9	14	12	4	0
Hypothesis	6					
Accept		90	85	87	89	50
Reject		5	5	4	7	0
Undecided		3	8	8	3	50
Hypothesis	7					
Accept		70	50	58	61	50
Reject		25	42	29	33	50
Undecided		3	7	12	5	0
Hypothesis	8					
Accept		27	25	4	22	25
Reject		68	69	91	72	50
Undecided		3	5	4	4	25
Hypothesis	9					
Accept		48	43	54	53	25
Reject		47	50	45	41	75
Undecided		4	5	0	5	0
Hypothesis	10					
Accept		23	27	17	28	50
Reject		72	65	82	66	50
Undecided		3	7	0	5	0
Hypothesis	11					
Accept		87	78	87	82	75
Reject		8	16	12	15	25
Undecided		3	5	0	2	0
Hypothesis	12					
Accept		12	19	12	14	25
Reject		81	73	83	82	75
Undecided		5	7	4	3	0
Hypothesis	13					
Accept		73	75	70	68	100
Reject		20	16	20	26	0
Undecided		6	8	8	5	0
Hypothesis	14					
Accept		62	54	45	60	50
Reject		27	34	41	23	25
Undecided		9	10	12	15	25
Hypothesis	15					
Accept		96	94	87	92	100
Reject		1	5	8	6	0
Undecided		1	0	4	1	0
Hypothesis	16					
Accept		17	22	8	9	25
Reject		80	75	91	89	50
Undecided		2	1	0	1	25
Hypothesis	17					
Accept		71	66	75	66	50
Reject		25	31	25	31	50
Undecided		2	1	0	2	0
Hypothesis	18					
Accept		80	70	79	67	100
Reject		15	22	20	29	0
Undecided		3	7	0	3	0
		CIVILIAN RESPONDENTS				
		DOD	STATE	OTHERS	TOTAL	
Hypothesis	1					
Accept			70	76	70	72
Reject			23	23	25	24
Undecided			5	0	4	4
Hypothesis	2					
Accept			14	0	8	9
Reject			82	94	83	85
Undecided			2	5	8	5

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		RESPONDENTS			
		DOD	STATE	OTHERS	TOTAL
Hypothesis	3				
Accept		44	47	37	42
Reject		38	47	33	38
Undecided		17	5	29	18
Hypothesis	4				
Accept		29	11	29	25
Reject		67	82	62	69
Undecided		2	5	8	5
Hypothesis	5				
Accept		45	64	25	43
Reject		36	17	58	39
Undecided		18	17	16	17
Hypothesis	6				
Accept		79	88	79	81
Reject		20	11	8	14
Undecided		0	0	12	4
Hypothesis	7				
Accept		64	41	41	52
Reject		29	52	41	38
Undecided		5	5	16	9
Hypothesis	8				
Accept		29	35	37	33
Reject		58	41	54	53
Undecided		11	23	8	13
Hypothesis	9				
Accept		55	52	60	56
Reject		29	41	39	35
Undecided		14	5	0	8
Hypothesis	10				
Accept		27	29	29	28
Reject		63	64	70	66
Undecided		9	5	0	5
Hypothesis	11				
Accept		67	47	66	62
Reject		14	41	20	22
Undecided		17	11	12	14
Hypothesis	12				
Accept		17	17	0	12
Reject		73	76	79	76
Undecided		8	5	20	12
Hypothesis	13				
Accept		70	62	54	63
Reject		26	31	41	32
Undecided		2	6	4	4
Hypothesis	14				
Accept		58	62	56	58
Reject		14	12	26	17
Undecided		26	25	17	23
Hypothesis	15				
Accept		97	75	91	90
Reject		2	6	0	2
Undecided		0	18	8	6
Hypothesis	16				
Accept		5	6	8	6
Reject		88	93	79	86
Undecided		5	0	12	6
Hypothesis	17				
Accept		64	37	62	58
Reject		32	50	37	37
Undecided		2	12	0	4
Hypothesis	18				
Accept		55	43	60	54
Reject		38	43	34	38
Undecided		5	12	4	6