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Time Utilization Among Morse Code Trainees: 1989 Survey

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This research analyzes how student trainees in the entry-level Morse code operator course perceive and utilize their time in a typical 24-hour period. The objective was to determine the relationship, if any, between student time expenditures in various activities, and academic performance. Also of interest were inter-service and training shift differences in time expenditures, and whether time satisfaction was critical to performance. Findings indicated that, although certain variations exist among services and shifts, these do not relate to academic attrition. Also, findings indicate that those groups who are most satisfied with their time often experience high attrition.

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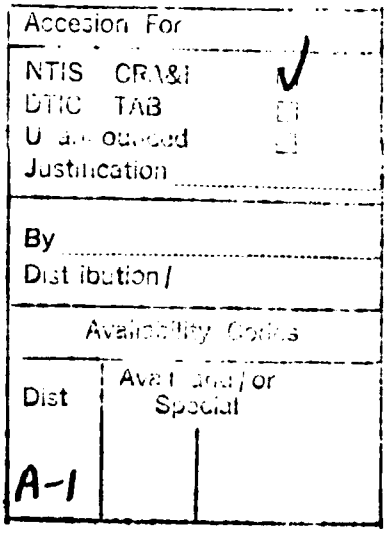

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TIME UTILIZATION AMONG MORSE CODE TRAINEES: 1989 SURVEY

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TIME UTILIZATION AMONG MORSE CODE TRAINEES: 1989 SURVEY

Introduction

The purpose of this research report is to describe how time is utilized by the student population in the Morse code training program at the U.S. Army Intelligence School, Fort Devens, MA (USAISD), and to determine the relation of time utilization to academic attrition. Students from the four service elements attending entry-level Morse code training (Army, Air Force, Navy, Marine Corps) were surveyed to determine time allocation, in a typical 24-hour period, among seven activity categories. Findings were then related to student attrition rates.

This report is part of a larger Army Research Institute (ARI) effort addressing the problem of Morse student attrition from a multidisciplinary approach that considers selection, training, and organizational factors. Attrition in the Morse training course has been a chronic problem for a number of years, but is receiving increased attention with the consolidation of all service elements at the Army site (USAISD) as executive agent for this type of training, and with the prospects of decreasing budgetary and personnel resources. A central focus of ARI's larger effort is the development and evaluation of a cognitive process model that portrays the information processing dynamics of learning to copy Morse code (Wisher, Kern, and Sabol, 1990). The cognitive model provides a framework to assess factors that influence the acquisition and sustainment of code copy skill. As a complement to this work investigating the details of the learning process, the current time utilization survey is one in a series of efforts to evaluate areas outside of the learning process that may have an impact on student performance, both positive and negative.

Previous ARI work explicated Morse student attrition (Knapp and Hagerdon, 1989, 1990) by identifying an eight factor structure elicited from students, instructors, and other subject matter experts using scaling techniques and an iterative judgment process to quantify factor criticality and relation to attrition. These eight factors are shown in Figure 1. Findings indicated that two factors--time and learning code--were the most critical in determining attrition. While the cognitive learning model work cited above is addressing critical learning process issues, the time factor (hours in training and activity demands outside the classroom) had not been surveyed since the early 1980's. Thus USAISD requested ARI to conduct an updated survey of current Morse students in order to document how time is spent and whether time utilization impacted classroom performance.

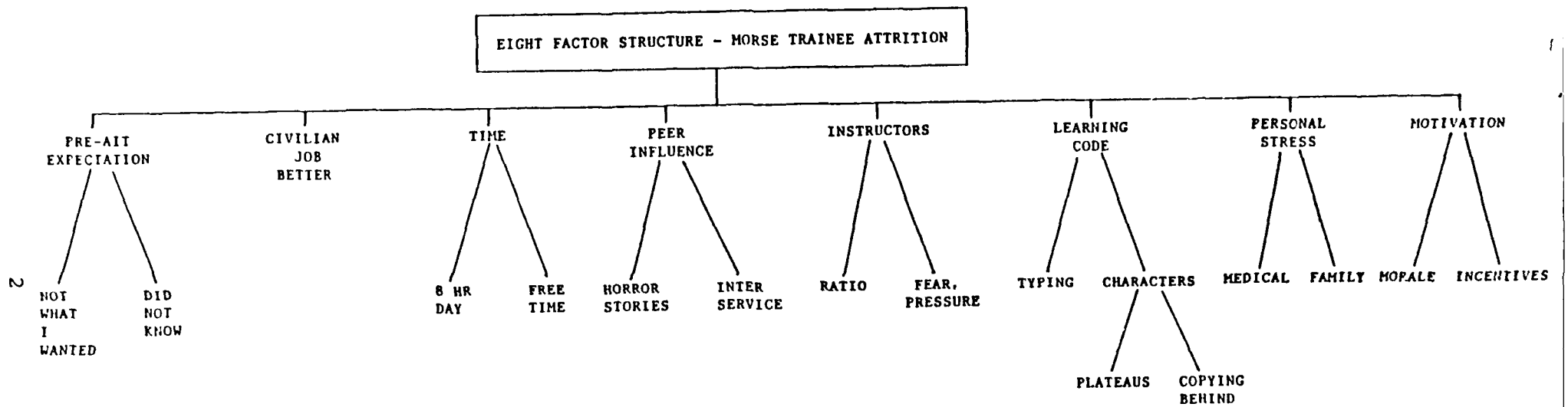


Figure 1. Attrition factors derived from focus groups of basic Morse division casuals, instructors, and subject matter experts (Knapp and Hagerdon, 1989).

Method

Student Population and Survey Administration

A total of 535 students from the four service elements were surveyed representing those enrolled in basic Morse training during a three month period in late 1989. Table 1 shows the sample breakdown by service as well as by training shift. Of interest in the time utilization analysis were the detection of any inter-service differences as well as training shift (morning, afternoon, evening) differences.

The survey instrument consisted of two major questions: how is time spent? and, how satisfactory is the time schedule? One survey page was devoted to each question. On page one, each individual filled in a time line indicating number of hours spent in a typical training day (to the nearest half-hour) on each of seven activities: Morse training, remedial training, platoon or required service duties, personal maintenance, meals, sleep, and leisure. These activity categories were derived in consultation with USAISD personnel based on previous survey efforts and the desire to have the minimum representative discrete activities portrayed. The page one form is shown in Figure 2.

Time satisfaction was examined on page two of the survey which required response to an overall time satisfaction query as well as a checklist of specific items where students indicated any desire to increase or decrease time allotments or time slots according to specific activities. A space was also provided for additional comments. This form is shown in Figure 3. Administration of the survey was accomplished by visiting each service barracks area and allowing students time to fill in all questions.

Student training outcome data was obtained from the student records database at USAISD for students enrolled during the survey period, after six months had elapsed (average training time for course completion).

Data Analysis

Timeline data were tabulated by recording hours spent on each activity, and then computing mean hours for the total group, each service, and each training shift. A two-factor mixed design Analysis of Variance (ANOVA) F-ratio was obtained for each activity category. Time satisfaction data were tabulated according to overall satisfied-dissatisfied category as well as the individual desired change categories. Chi-Square analyses were performed to assess service and training shift differences.

Table 1

1989 TIME UTILIZATION ANALYSIS: STUDENT POPULATION SAMPLE

		A SHIFT	B SHIFT	C SHIFT
TOTAL SAMPLE	535	206	166	162
ARMY	146	62	55	29
AIR FORCE	192	67	69	56
NAVY	140	56	42	41
MARINE CORPS	57	21		36

TIME UTILIZATION SURVEY: How Do You Spend Your Time?

The purpose of this survey is to determine how much time you spend doing various activities at particular times during your **normal** day. Please account for a full 24-hour period by filling in the spaces below using selections from the activity list. An example of activities follows:

(EXAMPLE)
24 HOUR
TIME LINE

0300
0400
0500
0600
0700
0800

Service_____

Shift_____

Pass Type_____

---

24 HOUR
TIME LINE

0000
0100
0200
0300
0400
0500
0600
0700
0800
0900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400

LIST OF ACTIVITIES

A. Sleep

B. Meal

C. Platoon Activities (e.g., PT, CST)

D. MOS Training (include transit time)

E. Remedial (indicate voluntary/mandatory)

F. Personal Maintenance (e.g., haircuts, medical, barracks, etc.)

G. Leisure Time (e.g., Rec Cen, Enl Club, bowling, movies, off-post, etc.)

USAISD FORM 351-2 (TEST)
1Sep89

Figure 2. Time Utilization Survey - page one.

Time Utilization Survey: How Do You Feel About Your Daily Schedule?

Overall, I am ( ) satisfied ( ) dissatisfied with my daily schedule.

If you are dissatisfied, please check those areas which should be changed to provide you a satisfactory training day. **More than one response is possible for Items 3 through 8.**

1. Training Shift:

Change from AM to PM:_____ Change from PM to AM:_____

2. Length of Training Day:

Make day shorter:_____ Make day longer:_____

3. Remedial Training:

Be made shorter:_____ Change time of day:_____

4. Platoon Activities:

Decrease the time:_____ Change time of day:_____

5. Personal/Maintenance:

Need more time:_____ Change time of day:_____

6. Leisure Time:

Need more time:_____ Change time of day:_____

7. Meals:

Need more time:_____ Change time of day:_____

8. Sleep:

Need more time:_____ Improve quality (noise, light, etc.)_____

COMMENTS:_____
_____
_____

Figure 3. Time Utilization Survey - page two.

Results

Time Expenditure Analysis

Figure 4 depicts the percent time expenditure in a pie chart and a table of mean hours on each of seven activities for the total group. Tables 2 and 3 present mean hours per day on each activity by service element and training shift, respectively. These data are graphically represented in the bar charts of Figure 5. It is immediately apparent that the majority of time is spent in training and sleep (nearly 60%), with the remaining time distributed among the remaining five tasks.

The service and shift data show differences in various categories. The Army demonstrates more personal maintenance and sleep time, the Air Force more sleep time, Navy spends more time on remedial training and leisure, and the Marine Corps is quite distinct in having more platoon tasks and markedly less leisure and sleep time.

The "A" or morning shift trainees indicate more leisure time, "B" or afternoon shift has more sleep and personal maintenance, and "C" or evening shift more training time, platoon tasks with less leisure and sleep. For any given group or subgroup, the time allocation to one category will ultimately affect all others, since a finite total time (24 hours) is available. Thus if more time is spent in personal maintenance, less time will be spent elsewhere. Obtained F-ratios (Table 4) indicate service and shift differences in all but the remedial training category and shift differences only in the training hours category.

Time Satisfaction Analysis

Table 5 shows percent satisfaction with time by total group, service element, and training shift. Obtained Chi Square values are significant, (overall satisfaction: $\chi^2 = 6.6969$, df=1, $p < .01$; satisfaction x service: $\chi^2 = 19.39$, df=3, $p < .01$; satisfaction x shift: $\chi^2 = 27.05$, df=2, $p < .01$) indicating that, overall, students are very satisfied with their time (2 out of 3 surveyed), but certain service and shift differences exist. The Air Force is slightly more dissatisfied than the other services, and the "A" shift is more satisfied than either "B" or "C." In general, the Army and Marine Corps are most satisfied in any condition, and the Navy and Air Force slightly less so. Only about one-third of students replied to the factors for suggested improvements or the comments block on the page two of the survey form. These data are summarized for informational purposes in Appendix A.

Training Outcome Data Related to Service and Training Shift

Training outcome data was obtained for all students enrolled during the survey period. After six months (average training time for Morse training), less than one-fifth of the study sample was

MEAN NUMBER OF HOURS PER DAY SPENT ON VARIOUS ACTIVITIES

	MORSE TRAINING	REMEDIAL TRAINING	PLATOON TASKS	PERSONAL MAINTENANCE	MEALS	LEISURE	SLEEP
TOTAL (N=535)	6.87*	1.07	2.63	1.61	1.84	2.86	7.05

TRAINING & SLEEP OCCUPY 60% OF TIME (14 HRS)
REMEDIAL & PLATOON TASKS 15% OF TIME (4 HRS)
PERSONAL TIME (MAINT, LEISURE, MEALS) 25% OF TIME (6 HRS)

*Includes Transit Time

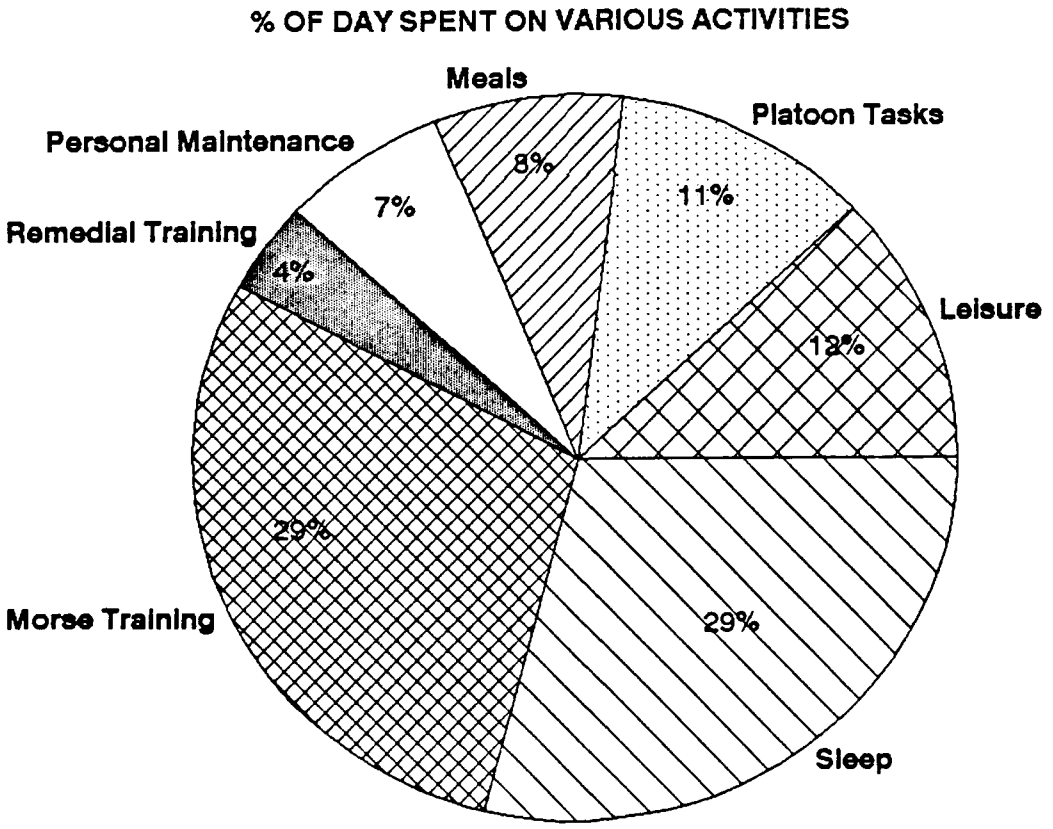


Figure 4. Mean number of hours and % of day spent on various activities by Morse trainees.

Table 2

MEAN HOURS PER DAY ON VARIOUS ACTIVITIES BY SERVICE ELEMENT

	MORSE TRAINING	REMEDIAL TRAINING	PLATOON TASKS	PERSONAL MAINTENANCE	MEALS	LEISURE	SLEEP
TOTAL (N=535)	6.87**	1.07	2.63	1.61	1.84	2.86	7.05
ARMY (N=146)	6.66	0.95	2.07	2.15*	2.04*	2.88	7.02
AIR FORCE (N=192)	6.79	0.98	2.16	1.60	1.69	2.94	7.77*
NAVY (N=140)	7.01	1.32*	1.75	1.16	1.85	3.61*	7.27
MARINE CORPS (N=57)	7.02	1.04	4.57*	1.53	1.78	2.02*	6.17*

ARMY SHOWS MORE PERSONAL MAINTENANCE, MEAL TIME

AIR FORCE - MORE SLEEP TIME

NAVY - MORE REMEDIAL, LEISURE, SLEEP; FEWER PLATOON TASKS

MARINE CORPS - MORE PLATOON TASKS; LESS LEISURE & SLEEP

***DIFFERENCES SIGNIFICANT AT P <.01**
****INCLUDES TRANSIT TIME**

Table 3

MEAN HOURS PER DAY BY TRAINING SHIFT

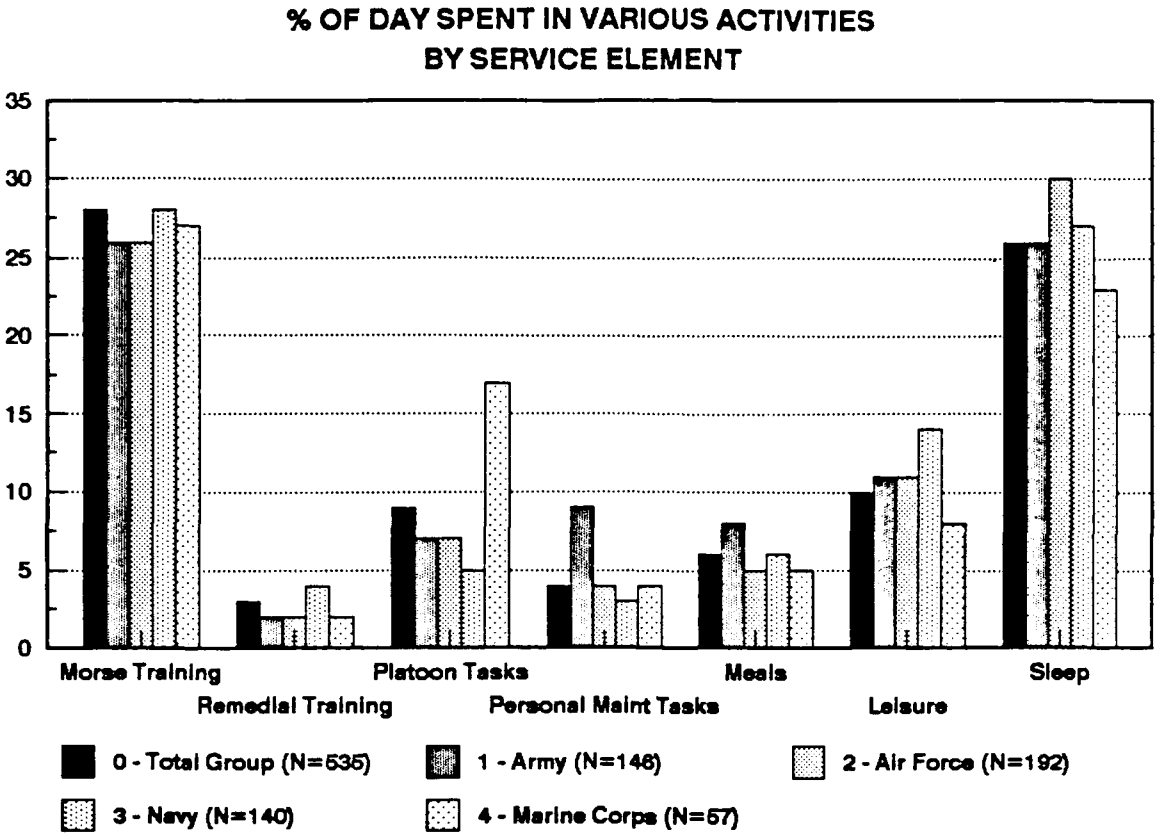
SHIFT	MORSE TRAINING	REMEDIAL TRAINING	PLATOON TASKS	PERSONAL MAINTENANCE	MEALS	LEISURE	SLEEP
A (206)	6.82	1.10	1.85	1.45	1.79	3.63*	6.91
B (166)	6.31*	1.00	1.99	2.03*	1.61	2.85	8.32*
C (162)	7.38*	1.04	3.13*	1.44	2.12	2.33*	6.63*

A SHIFT: MORE LEISURE TIME

B SHIFT: MORE SLEEP, FEWER TRAINING HOURS, MORE PERSONAL MAINTENANCE

C SHIFT: MORE TRAINING HOURS, LESS LEISURE, SLEEP TIME, MORE PLATOON TASKS

***DIFFERENCES SIGNIFICANT AT P <.01**



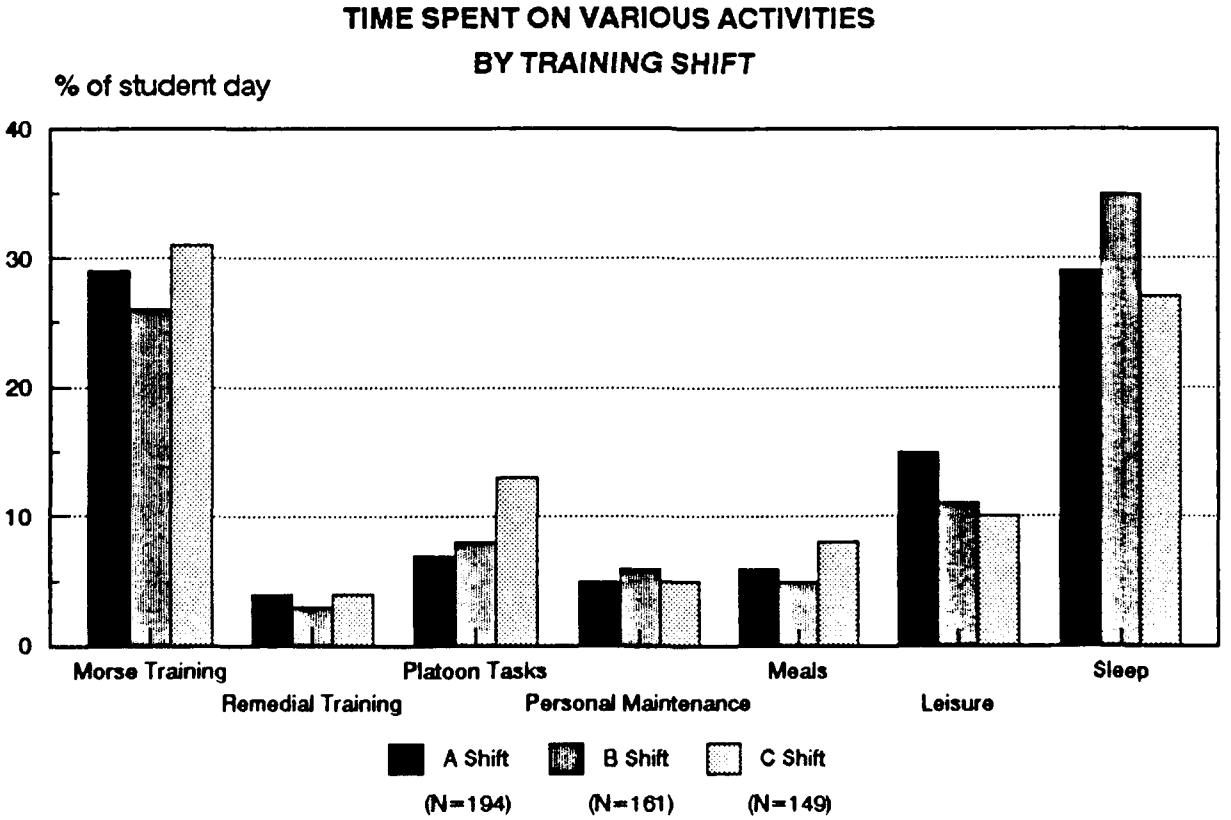


Figure 5. % of student day spent on various activities by service and training shift.

Table 4

F Ratios obtained comparing time expenditure x service and shift on various activities during Morse training

ACTIVITY	SOURCE	F-VALUE	SIGNIFICANCE LEVEL
Morse Training	Service	3.06	n.s. (df=3)
	Shift	50.66	p <.01 (df=2)
	Service * Shift	1.64	n.s. (df=5)
Remedial	Service	2.80	n.s.
	Shift	.70	n.s.
	Service * Shift	1.81	n.s.
Platoon Tasks	Service	77.75	p <.01
	Shift	28.28	p <.01
	Service * Shift	7.28	p <.01
Personal Maintenance	Service	22.10	p <.01
	Shift	13.26	p <.01
	Service * Shift	8.83	p <.01
Meals	Service	4.43	p <.01
	Shift	17.85	p <.01
	Service * Shift	2.09	n.s.
Leisure	Service	11.85	p <.01
	Shift	27.20	p <.01
	Service * Shift	5.80	p <.01
Sleep	Service	23.86	p <.01
	Shift	44.45	p <.01
	Service * Shift	5.66	p <.01

Table 5

% SATISFACTION WITH TIME BY SERVICE ELEMENT

	TOTAL (N=504)	ARMY (N=139)	AIR FORCE (N=180)	NAVY (N=123)	MARINE CORPS (N=53)
SATISFIED	67%	78%	56%	71%	72%
DISSATISFIED	33%	23%	44%	29%	28%

2 OF 3 STUDENTS REPORT OVERALL TIME SATISFACTION

AIR FORCE SOMEWHAT LESS SATISFIED

% SATISFACTION WITH TIME BY TRAINING SHIFT

SHIFT	SATISFIED	DISSATISFIED
A (N=194)	80%	20%
B (N=161)	63%	37%
C (N=149)	55%	45%

A SHIFT CLEARLY MORE SATISFIED WITH TIME

B AND C SHIFT LESS SATISFIED, PARTICULARLY C

still enrolled. Of those whose outcome was determined, graduates, academic, and administrative failures are depicted in Figures 6 and 7, for service and training shift, respectively. The highest attrition is seen in the Army group, followed by the Air Force, Navy and Marine Corps, in that order. "A" shift contains the most academic failures, with "B" and "C" containing more graduates.

Discussion

Time Utilization

In general, training and sleep time occupy the training day by accounting for approximately 14 hours, or 60% of time. Following this, remedial training is about one hour, and platoon tasks, between two and three hours, approximately 15% of time. Meals, personal and leisure time consume the remaining six hours, or 25% of time. These averages are reasonable in light of the student mission which is to train, obtain adequate rest, and then attend to outside duties.

An examination of service and shift data reveals some deviations from the overall average (see Figure 2). The Army tends to show more personal maintenance, meal and leisure time, and the Air Force more sleep time. The Navy spends more time in remedial training, leisure time and sleep but offsets this with fewer platoon tasks. The Marine Corps shows a marked distinction in having much more time allocated to platoon tasks with a compensation in decreased leisure and sleep hours.

Training shift time utilization is slightly different from the overall average as well (see Figure 3). The morning "A" shift reports close to an hour more leisure time per day. "B" shift, or afternoon trainees, report more sleep time and time spent in personal maintenance tasks. "C" or evening shift are devoting more time to training as well as platoon tasks, with less sleep and leisure time. These differences clearly reflect the narrowed options that exist for leisure time expenditure during the afternoon and evening hours, and the increased emphasis on barracks activities (platoon tasks, personal maintenance, sleep) during these shifts.

Time Satisfaction

Student trainees are, in general, very satisfied with their time. Although the Air Force shows a slightly lower satisfaction level, the other services are very highly satisfied (3 to 1) over those who are dissatisfied (see Figure 5). One explanation for the Air Force difference was an artifact of the data collection situation in that Air Force trainees had more time to fill out the surveys (individuals were given the survey forms and envelopes and asked to return them the next day) and may have taken the opportunity to record more critical detail.

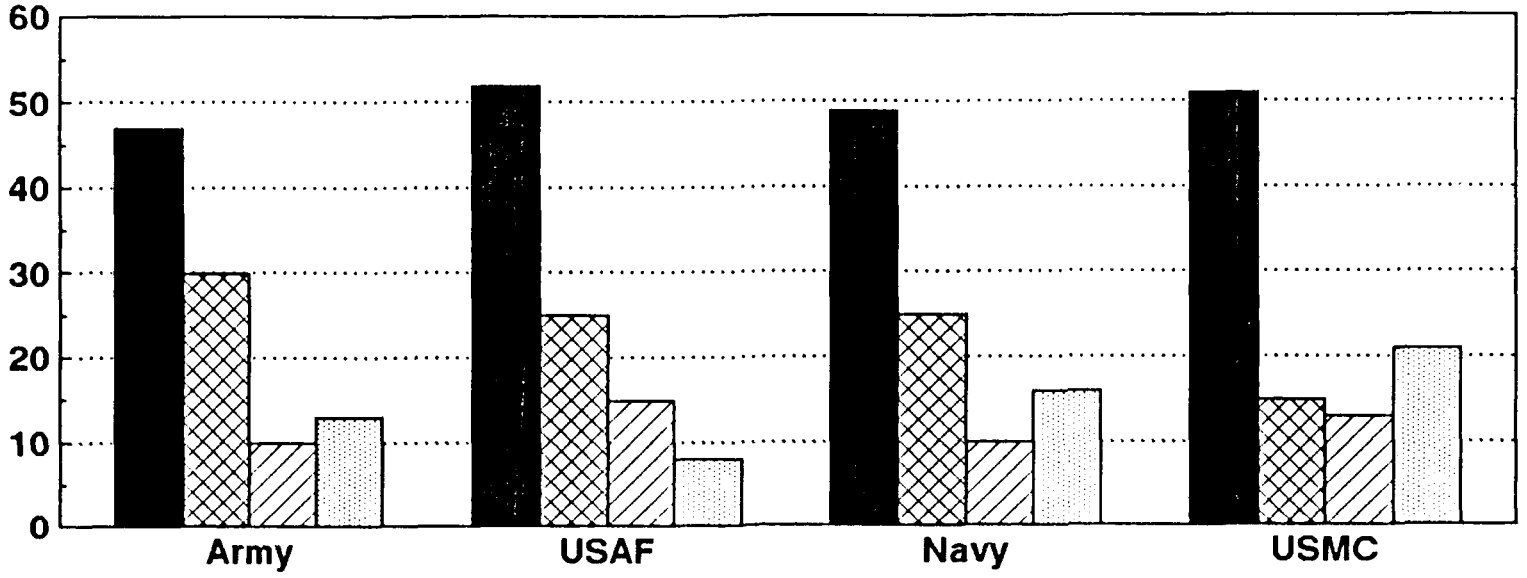


Table of Outcome by Service

STATUS	SERVICE			
	Army	Air Force	Navy	Marine Corps
Graduate	76 (47%)	104 (52%)	67 (49%)	20 (51%)
Academic Failure	49 (30%)	50 (25%)	34 (25%)	6 (15%)
Admin Failure	17 (10%)	29 (15%)	14 (10%)	5 (13%)
Still Enrolled	22 (13%)	17 (8%)	21 (16%)	8 (21%)

Figure 6. Morse training outcome by service (using figures available from USAISD Morse training department, Feb 90).

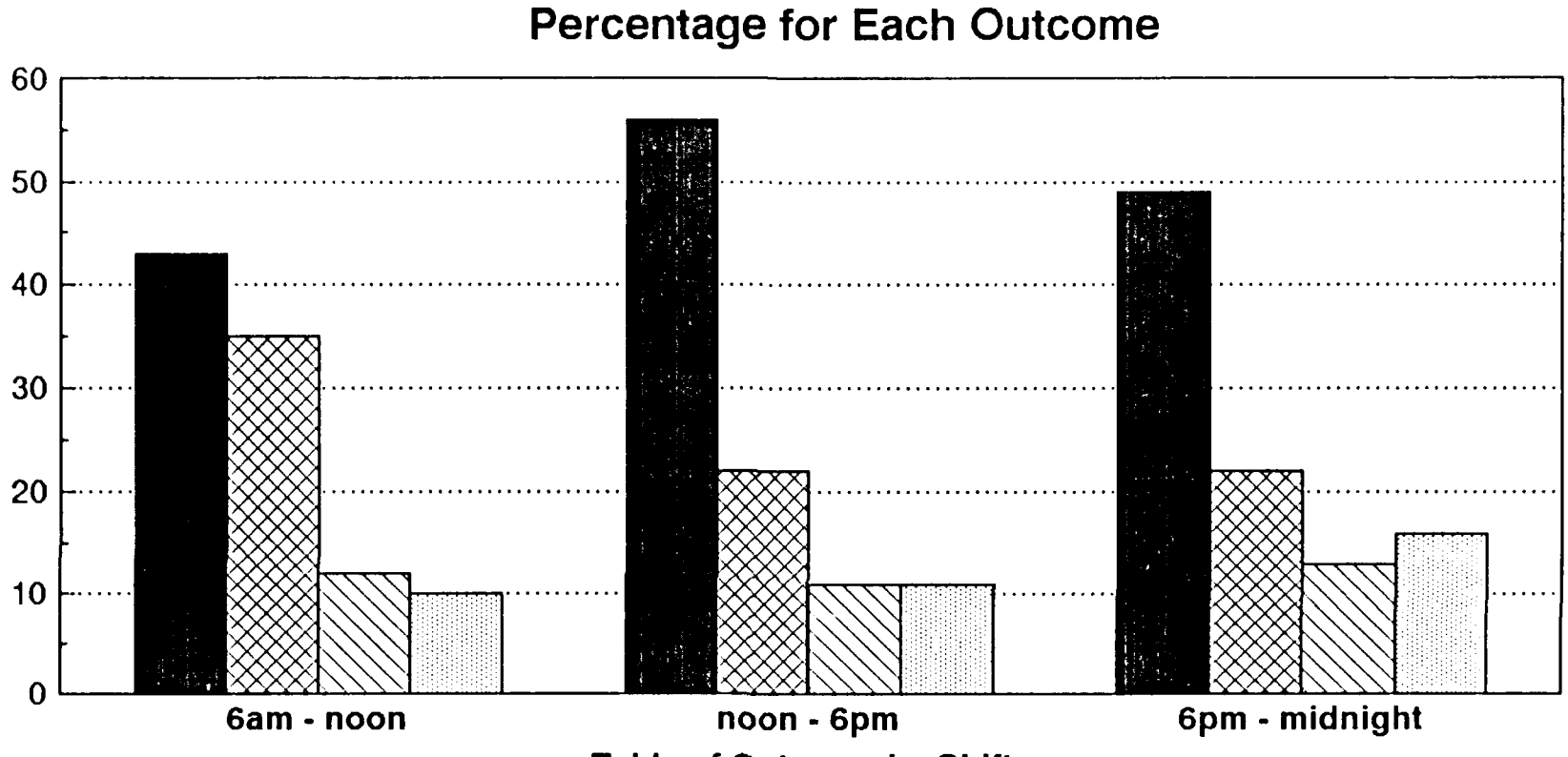


Table of Outcome by Shift

STATUS	TRAINING SHIFT		
	A: 6am - noon	B: noon - 6pm	C: 6pm - midnight
Graduated BMD	61 (43%)	114 (56%)	92 (49%)
Academic failure	51 (35%)	46 (22%)	42 (22%)
Admin failure	18 (12%)	22 (11%)	25 (13%)
Still enrolled	15 (10%)	22 (11%)	31 (16%)

Figure 7. Morse training outcome by training shift (using figures available USAISD Morse training department, Feb 90).

Shift differences clearly exist in time satisfaction. The morning shift trainees are highly satisfied with their schedule (80%), while the afternoon and evening report 63% and 55% satisfaction, respectively. This is understandable in that the general population has a natural orientation toward morning work, followed by personal and leisure tasks, then sleep. Variations on this are not as well accommodated, since certain facilities and services are not as available in the late evenings or early mornings when free time could be used. Sleeping is typically more difficult during daylight hours than at night.

Relation to Training Outcome

The time utilization and satisfaction findings are only meaningful, however, in relation to trainee performance in the accomplishment of the mission: graduate from the training program. Considering this objective, the training outcome findings (see Figures 6 and 7), show that the training shift and satisfaction reporting does not impact performance in a negative way, but rather a trend shows the opposite. That is, the Army, with the highest satisfaction ratings, also has the highest attrition. Although more dissatisfaction exists with the midday and evening training shifts than with the morning, the attrition rate is highest in the AM shift. Individuals may be more vocal in these circumstances in expressing their dissatisfactions, but it is not impacting their performance in the classroom.

Summary

As part of a multidisciplinary approach to the improvement of Morse trainee performance, one dimension of the problem area often suggested is that time distractions and scheduling impact the classroom learning process. Length of the training day, numerous outside mandatory duties, and varying training shifts, among other factors, have been mentioned as possible contributors to the high attrition rate in Morse training. The time utilization survey reported above does not bear out these speculations at this time. In fact, several months prior to the survey, certain positive adjustments were made: the initial training day was reduced from a mandatory eight hours to six with remedial hours available to assist learning difficulties, and outside mandatory activity requirements were reduced, and meals and leisure opportunities improved. The survey findings indicate a wide satisfaction with these adjustments. A closer look at time expenditures by service and training shift do reveal certain variations, but apparently these are not monumental and reflect a natural adjustment to availability of services and opportunities during late night hours.

For those who did express dissatisfaction, this criticism is not reflected in their school performance; in fact, the reverse is true: a somewhat higher attrition rate obtains during the stated desirable "A" shift. This indicates that, although time management is an important consideration for a Morse trainee, learning

difficulties with the Morse copy task are more internal to the classroom and the individual than attributable to this external time factor. Since the central focus of ARI research is on the Morse learning process model and its implications, this report provides no immediate evidence to make changes outside the classroom environment, and suggests an even greater emphasis on understanding and evaluation of the learning process itself.

REFERENCES

Knapp, B.G., & Hagerdon, R.A. (1989). Morse Intercept Operator Trainee Attrition Factors: 1988. Brief to Commander, US Army Intelligence School, Ft. Devens, MA, by the US Army Research Institute, May 1988.

Knapp, B.G., & Hagerdon, R.A. (1990). Attrition Among Morse Code Operator Trainees: A Scaling Approach. Paper for presentation at the American Psychological Association National Convention, Boston MA, August 1990.

Wisher, R., Kern, R., & Sabol, M. (1990). A cognitive process model for Morse copy skill, Army Research Institute: Research Plan, March 1990.

APPENDIX A

Summary of Morse Trainee Comments and Suggested Changes to Time Utilization

A small number of Morse trainees indicated a desire for certain changes to the way their time was currently utilized. These were collected on the page two of the survey form, which was a checklist of 16 potential areas of change. A respondent could check one or more areas. Table A-1 presents the number of students checking the change factors, in order of most to least cited. Leisure time and sleep time were cited by approximately one-third of the group, with "shorten training day" and "more personal maintenance time" closely following. The remaining factors were cited by 25% or less of the total group; in most cases very small numbers.

The profile of students by service area and by whether they were from the generally satisfied or dissatisfied group is shown in Table A-2. Air Force students provided nearly half of the improvement suggestions, followed by Navy, Army and Marine Corps, respectively. The Marine Corps provided very few citations.
Fewer comments were obtained from the satisfied group.

A content analysis of written comments on the survey form was conducted and is presented in Table A-3. Although some 276 comments were received, and this is approximately half of the total student sample (N=535), many individuals had multiple comments and thus the total number does not represent separate individuals. The comments closely parallel the factors cited on the checklist part of the survey above (see Table A-1), in that more sleep, meals, and leisure time is desired, mandatory duties lessened, and scheduling of certain activities requires adjustment. The Air Force provided the most comments, and the Marine Corps, the least. Certain service specific comments are shown in Section II of Table A-3. Since these are few in number, they are only useful as an indicator of potential problem areas and not an immediate call for action. These data alone should probably not be a basis for making changes unless substantiated with other findings or needs.

The suggestions for improvement and comments are not atypical for an entry level trainee population. Nearly one in three students desire more sleep and leisure time, and one in four request a shorter training day, more personal maintenance time, and a revision of schedule to better accommodate mandatory service duties. In fact, the current system appears to be set up with as much flexibility as the system will allow. For example, the training day has already been reduced from eight to six hours, platoon activities reduced or shifted to later training phases, and group meals and physical training have been made optional for those meeting minimum academic requirements. As stated in the main report, the current dissatisfactions seem to bear little relation to academic performance or attrition rate.

Table A-1

16 POTENTIAL FACTORS TO IMPROVE TIME UTILIZATION LISTED ON FREQUENCY OF TRAINEE CITATION

IMPROVEMENT FACTOR	#CITATIONS	% OF STUDENTS
More Leisure Time	182	34
More Sleep	166	31
Shorten Training Day	146	27
More Pers Maint Time	142	26
Chg Time of Plt Task	133	25
Decrease Plt Tasks	122	23
More Time for Meals	119	22
Chg Shift: PM to AM	103	19
Improve Sleep	86	16
Shorten Remedial	65	12
Chg Remedial Time(s)	62	11
Chg Leisure Time(s)	24	4
Chg Shift: AM to PM	21	3
Chg Pers Time(s)	15	2
Lengthen Tng Day	8	1
TOTAL CITATIONS	1,437	

Table A-2

DIFFERENCES IN NUMBER OF TIME IMPROVEMENT SUGGESTIONS

BY SERVICE

Air Force	45%	(647 citations)
Navy	24%	(348 citations)
Army	21%	(297 citations)
Marine Corps	10%	(145 citations)

BY SATISFACTION LEVEL

Satisfied Students	41%	(592 citations)
Dissatisfied Students	59%	(852 citations)

- o Air Force provided majority of suggested changes.
- o Marine Corps suggested fewest changes.
- o Even satisfied students presented suggested improvements.

Table A-3

MORSE TRAINEE COMMENTS ON TIME UTILIZATION - 1989

I. Across Service Element.

COMMENTS	SERVICE ELEMENT				TOTAL
	AR	AF	N	MC	
Sleep - need more	6	23	14	2	45
Meals - improve quality, need more time	8	25	7	5	45
Need more leisure & personal (free) time	7	17	12	5	41
Platoon activities - make fewer or earlier/later to coord w/schedule	7	15	9	3	34
Remedial training - need more/ change it's scheduling/it's useless/exempt from PT if you go to remedial	4	12	8	2	26
Too noisy for sleep	6	6	7	0	19
Separate rooms by shift	0	11	2	0	13
II. Service Specific Comments.					
Training day too long	10	--	--	--	10
Make TIPS same as PT time or drop entirely	--	25	--	--	25
Make PT after school/ Post PT cancellations earlier	--	--	2	--	2
B shift a disaster	--	--	5	--	5
Too many musters	--	--	8	--	8
Make copy periods 45 min	--	--	--	2	2
Give more breaks	--	--	--	2	2
# Comments Received	48	134	78	21	276
%	17	48	28	7	

- Approximately same distribution of comments as suggested improvement factors (Air Force - Most; Marine Corps - Least)

- Comments closely parallel suggested improvement factors