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Assessing the Value of Army Continuing Education System Personnel to the Overall Benefits the Army Accrues

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14. ABSTRACT *(Maximum 200 words)*:
The Army Continuing Education System (ACES) received significant personnel cuts over Fiscal Years 2006 and 2007. Although previous studies demonstrated the positive effects of participation in ACES programs for both individual Soldiers and the Army as a whole, they did not address the direct relationship between ACES personnel and outcomes such as accelerated promotions and higher retention. This report summarizes analyses that investigated whether such a connection exists and the likely impact of reducing ACES personnel by nearly half. In addition to examining prior research on the impact of ACES, a database was developed containing a wide range of information such as programs offered and participation rates by installation. Analyses resulted in several noteworthy results, including: (a) online programs offered through eArmyU increase overall ACES participation; (b) the personnel cuts will result in a Soldier-counselor ratio of nearly 2000:1, almost double the ratio that existed in FY 2005 and far exceeding Army guidance in this regard; (c) the proposed cuts will lower participation rates and predictions indicate this will result in an increase in attrition, the cost of which will negate any savings realized through reduced numbers of ACES personnel.

15. SUBJECT TERMS
Army Continuing Education System (ACES); value; fiscal pressures; ACES participation; budget cuts; eArmyU; personnel reductions; staffing levels; staff requirements; staffing cuts; Army readiness; Army retention;

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ASSESSING THE VALUE OF ARMY CONTINUING EDUCATION SYSTEM PERSONNEL TO THE OVERALL BENEFITS THE ARMY ACCRUES

EXECUTIVE SUMMARY

Research Requirement:

Fiscal pressures associated with ongoing events such as the wars in Afghanistan and Iraq led the Army G-1 to institute significant cuts in Army Continuing Education System (ACES) personnel in fiscal years (FY) 2006 and 2007 and throughout the Program Objective Memorandum (POM). Over these two years, nearly 50% of ACES Department of Army Civilian (DAC) and contractor positions are to be eliminated. This prospect led to concern among ACES leadership who believed that the cuts would have serious negative consequences on the various programs and services they offer, which in turn would lead to a decrease in the positive results engendered by such programs for both individual Soldiers and the Army as a whole. Although previous research demonstrated positive effects of ACES programs, there was no published empirical evidence regarding the likely impact (or lack thereof) of large-scale personnel reductions. To fill this gap, Headquarters (HQ) ACES commissioned a study to examine the available data and determine if there was an objective way to assess the potential impact of the loss of ACES personnel on the Army.

Procedure:

Data and other information were gathered from a variety of sources to address the questions of interest. Administrative data from ACES records included program participation rates, grades for traditional courses, and a variety of data elements regarding eArmyU (e.g., participation rates, withdrawals by reason, grades, help desk calls, counseling sessions). A report by the United States Army Manpower Analysis Agency (USAMAA) included the methodology and results of a study they conducted in 2004 to assess the various tasks ACES personnel are required to perform and the level of effort required to complete them. Based on this information, USAMAA made recommendations for staffing levels at ACES headquarters and field offices. Several recent studies which addressed the impact of ACES program participation on outcomes such as promotion and retention were examined. Finally, an internal ACES analysis of the impact of the introduction of the Centralized Tuition Assistance Management (CTAM) system was reviewed.

Findings:

The magnitude of the cumulative (through FY 2007) personnel cuts of both Department of the Army Civilian (DAC) and contractor personnel is far in excess of those recommended by USAMAA. Specifically, USAMAA determined that the minimal level of staffing required to perform ACES functions would be reached by an 18-24%

reduction in personnel. This compares to a total planned personnel cut of 50% mandated by the G-1. The introduction of CTAM, which automates/streamlines many of the tuition assistance (TA) functions performed by ACES personnel, is estimated to allow for the elimination of 53 full-time equivalent DAC positions and 25 contractor slots. Cumulatively, these results suggest a baseline personnel requirement of 696 personnel. By comparison, the called-for reductions result in 644 positions in FY 2006 and 468 positions in FY 2007.

The introduction of eArmyU, along with the increase in TA reimbursement to 100% in 2003, increased Soldier participation in ACES programs overall. Comparison of 16 sites where Soldiers could enroll in eArmyU found that, as expected, participation rates were higher at those installations. However, there was no corresponding decline in participation in traditional courses. Thus, the availability of eArmyU increases the overall participation in postsecondary education Army wide.

Consistent with the literature on distance learning, failure and withdrawal rates for eArmyU were found to exceed those of traditional ACES courses. This increases the workload for ACES personnel who must perform the paperwork associated with both events. Further, from October 2004 through August 2005, the eArmyU helpdesk referred over 17,000 questions back to ACES counselors. The data also showed that there were greater levels of educational testing and education center visits at sites where eArmyU was available.

Recent trends in the characteristics of Army accessions indicate that greater numbers of lower aptitude (Category IIIB and IV) applicants are being admitted into the Army to counteract recruiting shortfalls. This, in combination with studies indicating that greater cognitive demands will be placed on future Soldiers, suggests that ACES functions in regard to personnel testing and basic skills education will be in greater demand. Further, the mandated personnel reductions will bring about a Soldier-counselor ratio of nearly 2,000:1, far greater than that suggested by Army guidance, which is 1,250:1. Correlations of participation rates by installation with the number of counselors/education service specialists indicated that a 27% reduction in these positions will result in an 8% reduction in the number of traditional courses taken and a 14% reduction in the eArmyU courses enrollments.

The conclusions from a number of studies were reviewed, indicating that ACES participation is associated with more promotion points, earlier promotions, and higher performance ratings. A survey of NCOs indicated that 90% of respondents felt that ACES programs increased their ability to perform at the next level. Results from several studies show that participation in TA and eArmyU results in greater retention, and that in-service educational programs are valued more by those who intend to remain in the Army than those who do not. Based on earlier findings, predictions indicate that the staff reductions in FY 2007 will result in a decrease in retention and an increase in attrition. The costs associated with such losses were found to be nearly equal to the savings gained by ACES staff reductions.

Utilization and Dissemination of Findings:

Among the recommendations that emerged from this research were that the USAMAA analysis guide staffing reductions, incorporating the additional cuts that result from the introduction of CTAM. Follow-up studies should be carried out to determine more exactly the impact of technology on ACES functions, including both CTAM and eArmyU. This analysis should also examine the impact of the Base Realignment and Closure Commission recommendations. The collection of additional metrics to provide an ongoing assessment of ACES programs, and the further leveraging of technology to streamline procedures and processes, will allow for empirically-based determinations of the staffing levels required to ensure adequate delivery of programs and services to Soldiers and to ensure their continued benefit to the Army.

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Introduction

In 2003, the U.S. Army Research Institute (ARI) published the results of research conducted to assess the impact on Soldiers and the Army of participation in the Army Continuing Education System (ACES) (Sticha, et al., 2003). This multi-year effort involved conducting a literature review on the impact of voluntary education programs, identifying various sources of relevant data and assembling a database, and conducting analyses to determine if any relationship could be demonstrated between ACES participation and outcomes such as performance and retention. The results were almost uniformly positive. For instance, participation was associated with a 7-percentage point increase in the likelihood that Soldiers would reenlist at the end of their terms (e.g., from 42% to 49%), as well as an increase in the likelihood that they would complete their first term. In regard to performance, taking Leader Skill Enhancement Courses was found to be associated with a larger number of promotion points, as was participation in the MOS Improvement Training program and the Army Personnel Testing Program.

Despite these outcomes, fiscal pressures associated with ongoing events such as the wars in Afghanistan and Iraq led the Army G-1 to institute significant cuts in ACES personnel in fiscal years (FY) 2006 and 2007 and throughout the Program Objective Memorandum (POM). Over these two years, nearly 50% of ACES Department of Army Civilian (DAC) and contractor positions are to be eliminated. This prospect led to concern among ACES leadership who believed that the cuts would have serious negative consequences on the various programs and services they offer, which in turn would lead to a decrease in the positive results engendered for both individual Soldiers and the Army as a whole.

Although the previous evaluation was able to demonstrate positive effects of ACES programs, no attempt was made to draw a direct connection between those outcomes and ACES personnel, per se. Although it could be argued prima facie that cutting staff by nearly half would necessarily reduce the level of services provided, there was no published empirical evidence regarding the likely impact (or lack thereof) of such reductions. To fill this gap, Headquarters (HQ) ACES sought the assistance of ARI to examine the available data and determine if there was an objective way to assess the potential impact of the loss of personnel on the Army. ARI in turn contracted with the Human Resources Research Organization (HumRRO), a non-profit research and development company employing experts in human resources and the behavioral sciences. HumRRO was the primary contractor for the earlier evaluation, and thus was already familiar with ACES programs and services.

This report summarizes the steps taken to identify and assemble the data required to assess the impact of ACES personnel cuts on the Army, the analyses that were conducted, and the results achieved. The findings are contained in the study's final

deliverable, a briefing entitled "The Impact of ACES Personnel Cuts on the U.S. Army," which is presented in annotated form in this report.

Data Sources

To assess the impact of personnel cuts on staffing levels over the years in question (FY 2005 – FY2007), the level of services provided under the original staffing levels (e.g., program participation rates), the impact of recent additions to ACES programs (primarily eArmyU), and the potential impact of automation of program functions were analyzed. The following sources of data were used, as well as additional input gathered to inform the HumRRO investigation.

A variety of participation-related information was provided by HQ ACES. In most instances, this was broken out by region and installation. These data included:

- Quarterly Participation/Cost/Evaluation reports (Form 1821) for the 3rd quarters of FY 2004 and FY 2005. ACES staff at each location assembled information and reported data on the following program elements:
  - Participation in Basic Skills Education Programs
  - Mission required training participants
  - High School completion program enrollments
  - Enrollees in associate, bachelor, graduate, and certification program traditional courses
  - Counseling visits
  - Army Personnel Testing program tests administered
  - Educational testing program tests administered
  - Multi-Use Learning Facility visits
- Grades for traditional courses in FY 2004
- eArmyU participation rates at various points in time
- eArmyU course withdrawals by category (e.g., Soldier initiated, for military and personal reasons)
- eArmyU grades for FY 2004
- eArmyU help desk calls FY 2005
- eArmyU counseling sessions FY 2004

In addition to raw data, documents and reports were obtained to assist in the analysis. These included:

- The United States Army Manpower Analysis Agency (USAMAA) 2004 report which was conducted for the Adjutant General, U.S. Army Human Resources Command (USAMAA, 2004). This included an in-depth examination of the functions that ACES staff perform, the level of effort required to do so, and the staffing required to successfully fulfill the organization's mission. A more complete description of this work is provided later in this report.

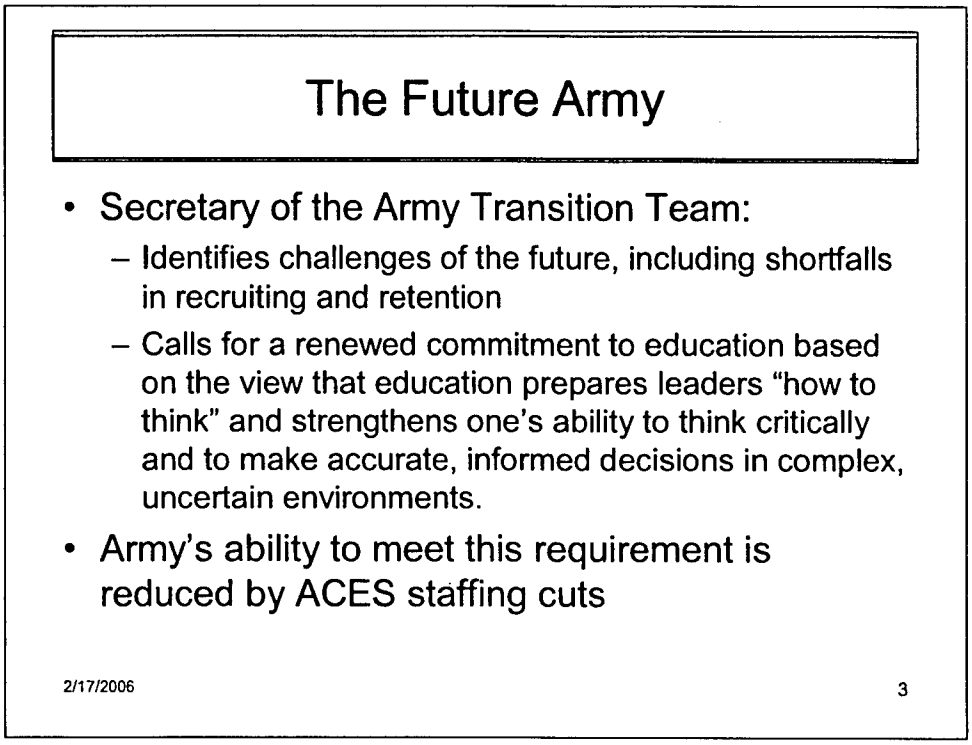
- The United States Army Research Institute for the Behavioral and Social Sciences (ARI) 2003 study "Impact of the Army Continuing Education System (ACES) on Soldier Retention and Performance: Data Analysis" (SR 2003-02, Sticha, et al.).
- A 2005 report from the RAND Corporation "Increasing Participation in Army Continuing Education: eArmyU and Effects of Possible Changes" (MG-293, Orvis, et al.) which examined the impact of eArmyU on such outcomes as retention, as well as program-related issues (e.g., effects of providing laptops on participation).
- Data and reports from the Sample Survey of Military Personnel (SSMP), which is conducted by the Army Personnel Survey Office of the U.S. Army Research Institute on a periodic basis. The SSMP surveys a random sample of Army officers and enlisted personnel to obtain input on a variety of issues. Several surveys included questions about continuing, in-service education.
- An internal ACES analysis conducted to estimate the potential for staff reductions with the introduction of a Centralized Tuition Assistance Management (CTAM) system (Leung, 2005). A description of the methodology used to accomplish this purpose is presented later in this report.

In addition to the above, researchers also conducted interviews with HQ ACES staff to learn about such issues as personnel functions, future potential technological advances, and to obtain details about data sources. Several conference calls were also held with ACES field personnel who had started and/or operated education facilities and functions at deployed sites to gather information about their experiences and the types of activities conducted at these locations.

To facilitate analysis of the data received, researchers developed a database using the Statistical Package for the Social Sciences that included all quantitative data. Finally, it should be noted that a great deal of additional information was gathered which was judged not to be germane to our analysis because it was either outdated, not objective in nature, or addressed issues outside the confines of the present research.

Overview of Results and Briefing

In this section of the report, we provide an overview of the results of our analysis by reviewing the briefing slides, identifying the sources of the information in each, and detailing the analyses that support the conclusions reached. Note that, for purposes of brevity, slides containing no substantive information (e.g., title slide) are omitted from this overview report.



This slide is based on a memorandum provided by HQ ACES from the Department of the Army, Office of Chief of Staff on "Implementing Instructions for Secretary of Army Transition Team (SATT)." The SATT was chartered in December 2004 to assist the Secretary of the Army in setting a strategic direction for the Army. Four panels were assembled to address (a) vision and strategy, (b) leadership and culture, (c) business process reform, and (d) active-reserve balance. The leadership and culture panel was assigned the task of assessing both elements within the Army, determining if leadership programs are effective in developing the types of Soldiers in the 21st century, and making recommendations in this arena.

Summary of Findings

- FY06 staffing levels are minimum necessary to sustain program benefits to Army
  - Based on analysis by U.S. Army Manpower Analysis Agency (USAMAA)[1]
  - Adjusted for savings due to Centralized Tuition Assistance Management (CTAM)[2]
  - eArmyU increases staffing requirements
  - Increased need for programs due to Army personnel requirements
- FY07 staffing cuts far exceed recommendations of USAMAA analysis and predict the following adverse effects on the Army[3]
  - Reduced participation by 11% in ACES programs and services
  - Increased first-term attrition by 395 Soldiers annually
    - Estimated annual cost to Army of additional attrition of $20.9 Million equals the total FY07 planned savings from staff reduction of $20.9 Million
  - Additional effects include lower reenlistment rates by 0.8 percentage points (e.g., from 49.3% to 48.5% of those eligible to reenlist)
- FY07 cuts beyond minimum requirements will severely hamper ability of ACES staff to provide needed services
  - Significantly reduced access to counselors at smaller sites
  - Less availability of counselors for down-range education

[1] U.S. Army Manpower Analysis Agency (25 June 2004). *Manpower and Organizational Assessment of Army Continuing Education System (ACES).*

[2] Leung, S. (2005). Excel spreadsheet CTAM_savings_calculation.xls, entitled, *Manpower Requirements to Support TA/CTAM.*

[3] Analyses supporting these findings are presented later in this briefing.

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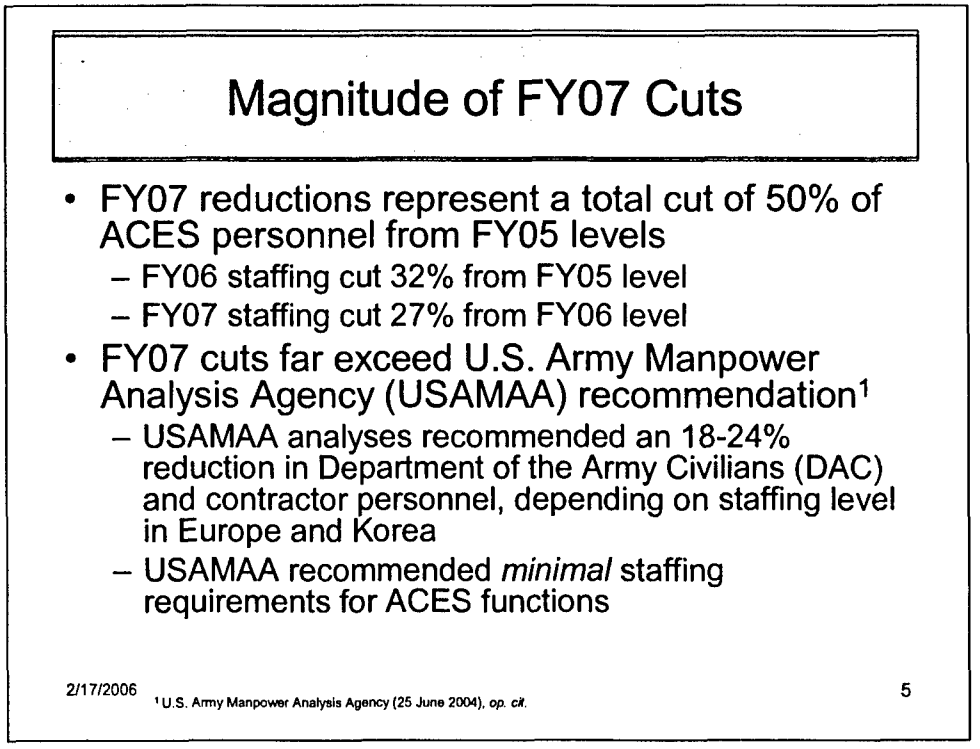
This slide presents a summary of the findings which will be described in greater detail as they are presented later in this report.

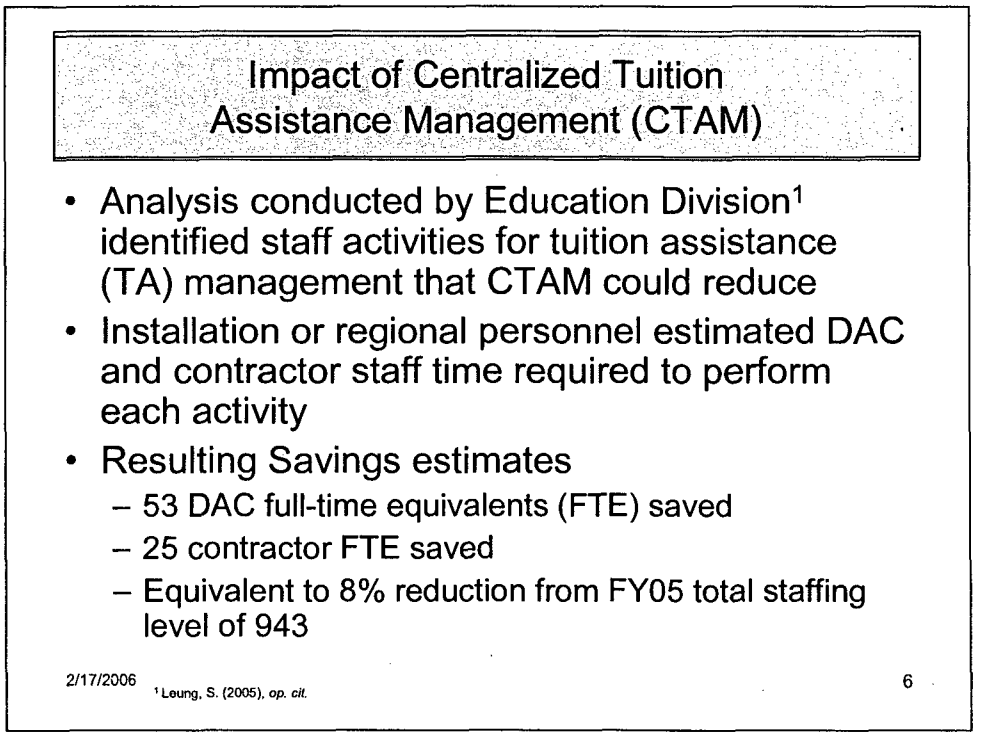


The first bullet in this slide is based on figures supplied by HQ ACES, and represents the mandated DAC personnel cuts and estimated cuts in contractor personnel in FY 2006 and FY 2007. The estimate of contractor cuts is based on the cessation of centrally-funded personnel at regional installations in 2006, some of which was compensated for through other means that year. No such funding will be provided in FY 2007. Consequently, central funding support is provided for only the first six months of FY 2006 and will be completely eliminated in FY 2007.

The second bullet summarizes information gleaned from the aforementioned USAMAA analysis. The USAMAA methodology involved the following steps:

- Researchers worked with ACES staff to develop a Work Center Description that included 276 tasks which were validated with field personnel.
- Site visits were then held to further validate the tasks, functions, and workload performed at the sites, and the time required to accomplish each task.
- Analyses were conducted to identify the best population on which to base subsequent modeling. It was determined that the E-4 to E-6 population at each location was most representative of the ACES participant base.
- For installations with 586 or more E-4 to E-6 Soldiers, a model was developed to determine the minimum number of ACES personnel required to provide needed education services.
- After applying the model across Army installations, the overall minimum number of personnel was determined.

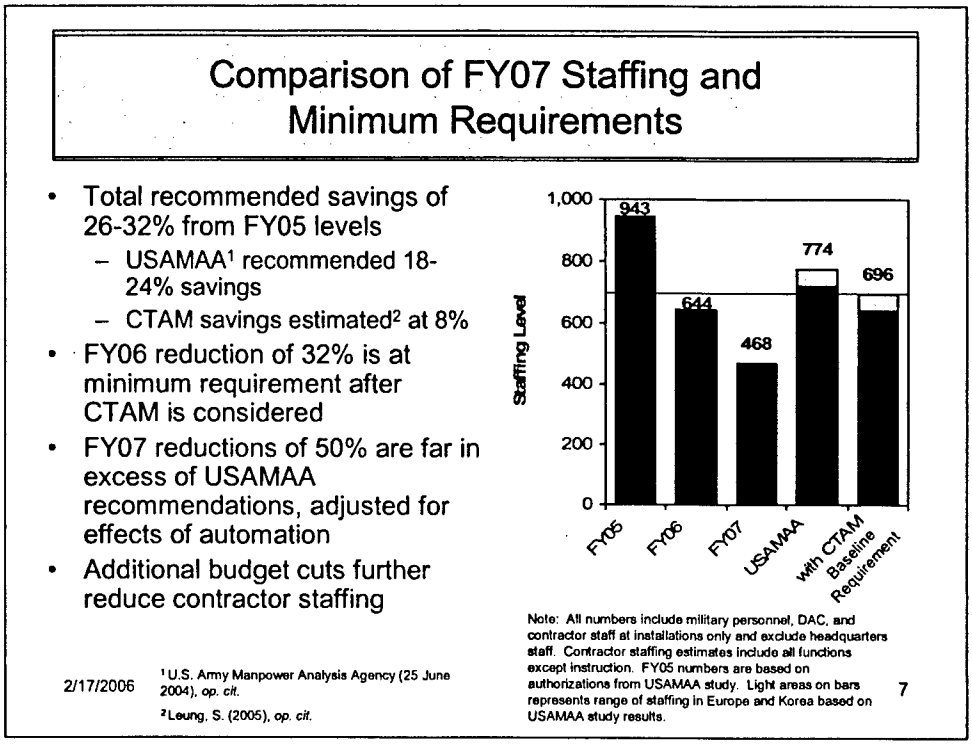
- The range provided in the above slide is intended to describe variation in estimated staffing requirements in Europe and Korea, for which the USAMAA study requirements were greater than the FY 2004 staffing levels. The primary reason for the recommended staffing increase in these two regions is that both contain a large number of small installations (i.e., fewer than 586 Soldiers in grades E-4 to E-6). The staffing model was not as accurate for these smaller sites, and the USAMAA report recommended that further studies be conducted to determine whether additional efficiencies could be obtained at them. It was the judgment of the HumRRO researchers that such efficiencies were likely in locations outside the continental United States where there are many sites with small numbers of Soldiers. Thus, HumRRO opted to present the percentage cut both without staffing increases in Europe and Korea (leading to a recommended 24% staff reduction) and with those increases (leading to an 18% reduction).



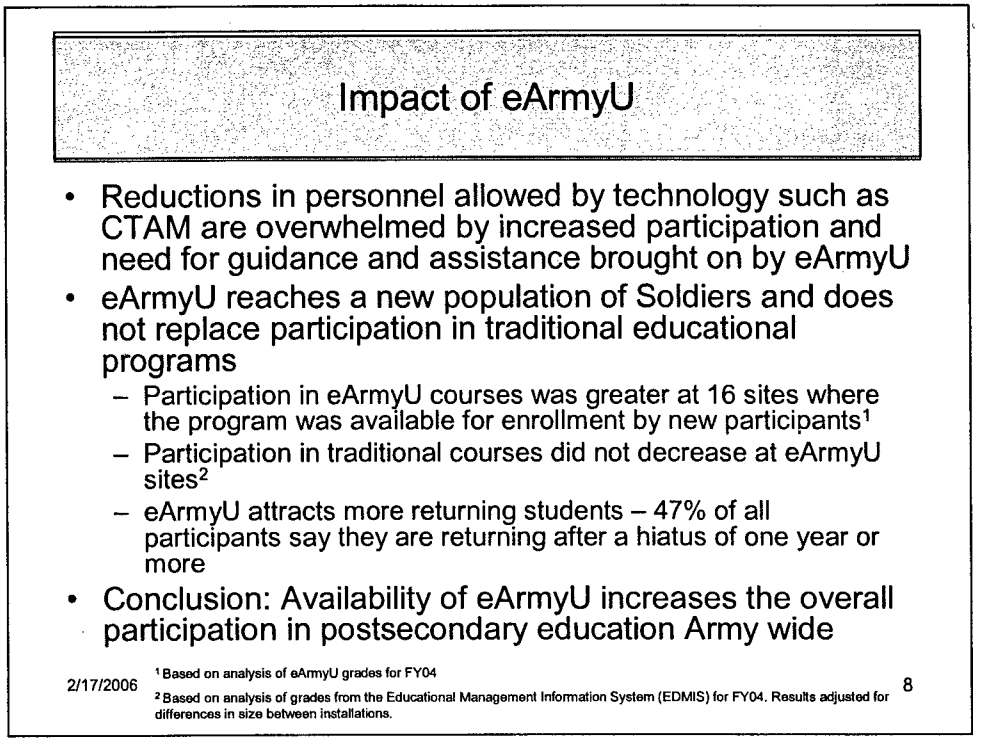
At the time this analysis was conducted, ACES was in the process of implementing Centralized Tuition Assistance Management (CTAM), which automates many TA functions currently conducted by DAC and contractor personnel. Part of the reasoning behind the suggested large cuts in staff was that automation would make it possible to reduce the number of personnel without having an effect on programs. ACES conducted an internal analysis of the likely impact of CTAM, which was verified by HumRRO in the current research. The basic steps taken to reach the findings were as follows:

- Using the USAMAA task analysis which showed functions performed and time required for each, those tasks that were TA-related were identified.
- Estimates were then generated concerning the reductions in personnel time that would be generated by the implementation of CTAM.
- These reductions were summed to obtain an overall estimate of the number of full-time equivalent positions that could be eliminated with the introduction of CTAM.

The results predicted that CTAM would produce a savings of 53 DAC and 25 contractor full-time equivalent positions. The savings of 78 personnel represents 8% of the total FY 2005 staffing level (943).



This slide summarizes the information previously presented. The personnel reductions that resulted from the USAMAA study combined with those from the CTAM analysis result in a recommended savings of 26-32%. The FY 2006 reduction already in place mirrors the combined results of these analyses. However the additional FY 2007 cuts reduce overall ACES staff to a level far below the recommended minimum (468 compared to 696). Additional budget cuts at the installation and HQ ACES levels further reduce contractor staffing.



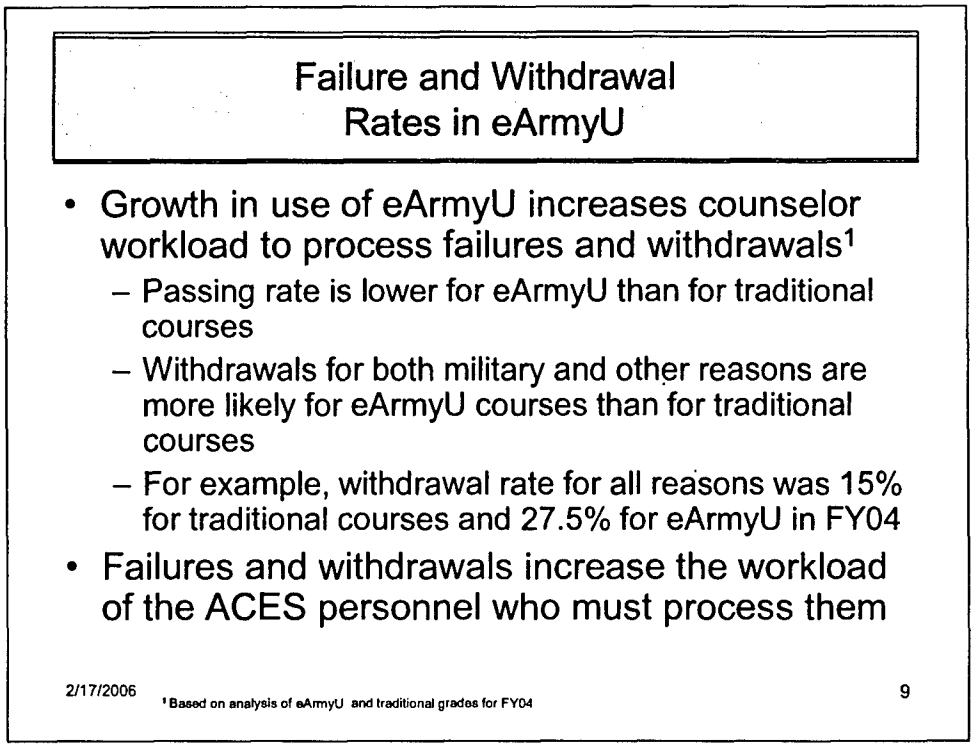
The suggestion has been made that the introduction of eArmyU would relieve ACES staff of many of the responsibilities that they have had with managing traditional educational. The HumRRO analysis, however, concludes that eArmyU actually increases the workload for ACES staff by reaching a far wider audience of Soldiers. In particular, the ability of Soldiers to continue their educational pursuits despite reassignments and deployments opened the door to Soldiers who had been previously unable to attend college.

We compared participation in eArmyU and traditional programs at the 16 sites at which Soldiers could register for eArmyU with the participation at other installations. (Detailed results of statistical analyses of these data are provided in Appendix A, Tables A1 and A2.) Table 1 shows the estimated mean number of eArmyU and EDMIS grades per installation, adjusting for differences in installation size. Not surprisingly, participation in eArmyU (as indicated by number of grades recorded) was higher at sites where Soldiers could enroll. However, the expectation that participation in eArmyU would lead to a decrease in traditional enrollments was not supported, as there were approximately the same number of grades given for traditional courses at eArmyU sites

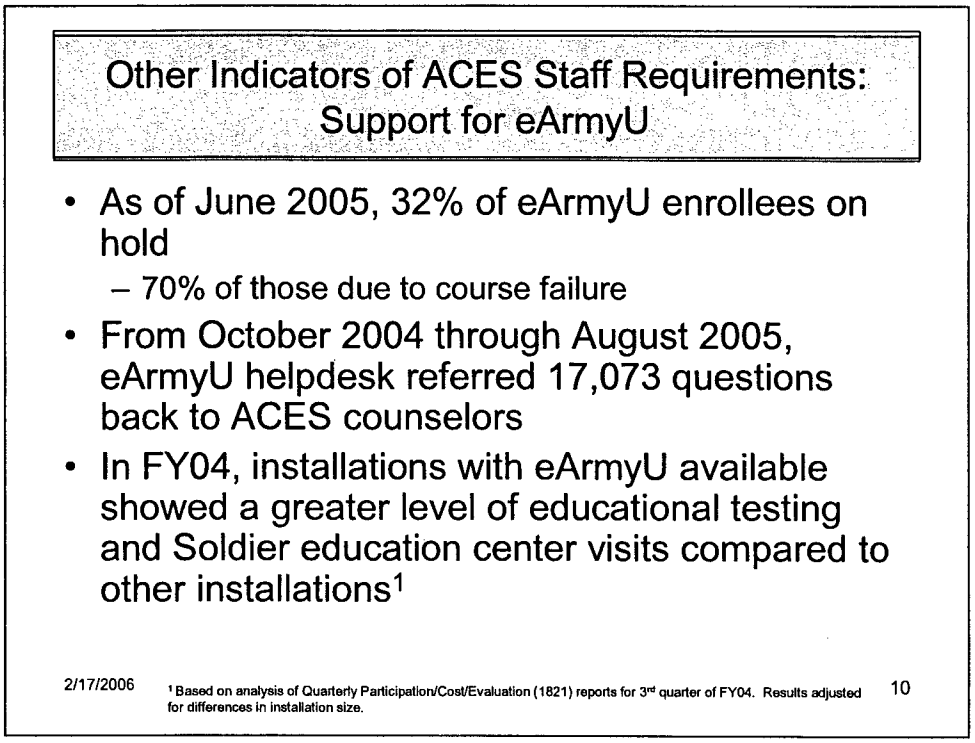
Table 1. Estimated Marginal Mean Number of eArmyU and EDMIS Grades

	Mean Number of Grades	
eArmyU Site?	eArmyU	EDMIS
No	821.4	2270.0
Yes	2015.7	2296.6

as were given at other installations. Thus, additional enrollments in eArmyU represent an overall increase in ACES program participants. This trend was undoubtedly accelerated by the move to 100% TA reimbursement in 2003.

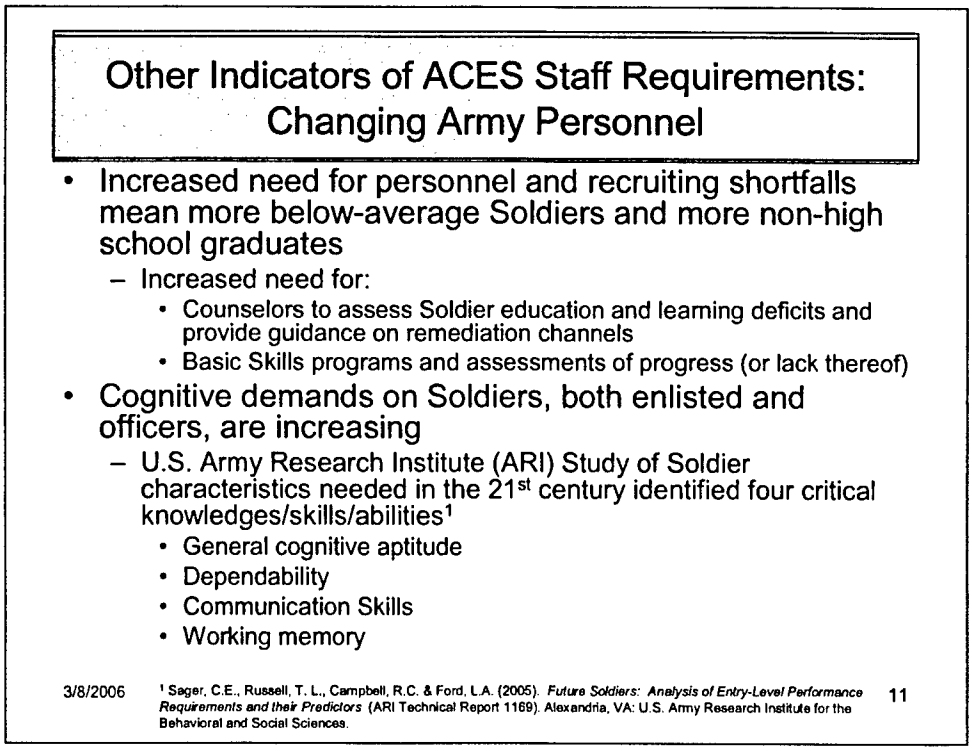


We analyzed the failure and withdrawal rates for eArmyU and traditional courses, and found that both rates were higher for the online courses provided through eArmyU. This reflects a common finding in the literature that completion rates for distance learning courses are lower than those for classroom-based instruction (Wisher, Sabol, Moses, & Ramsberger, 2002). Both failures and withdrawals require processing by ACES personnel, and this function is no less time consuming for online as compared to traditional courses.



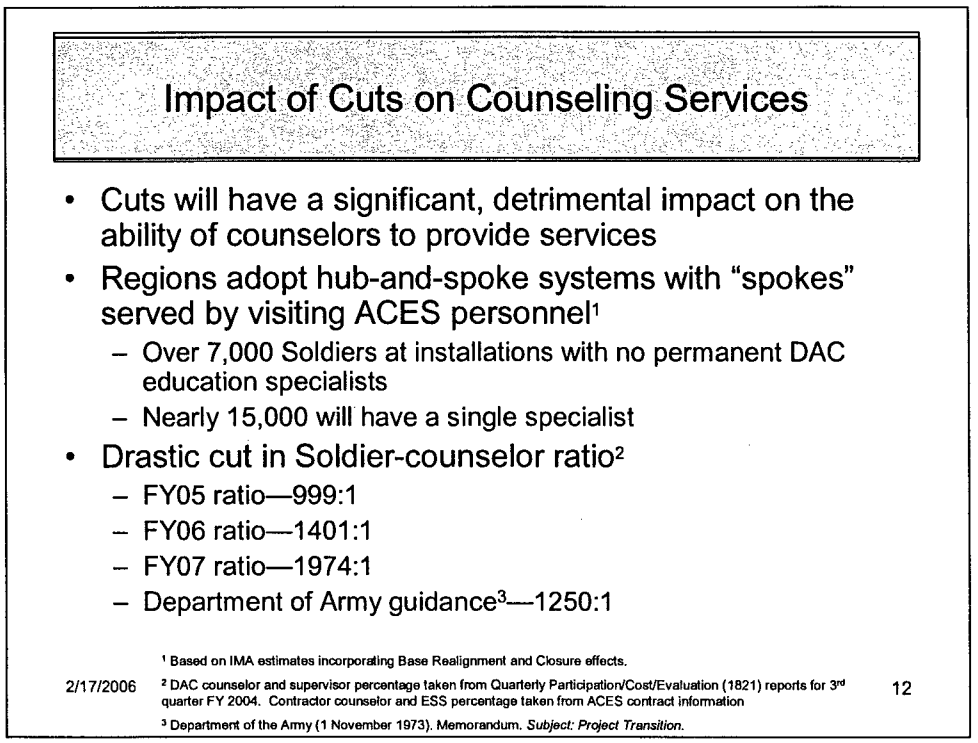
Soldiers enrolled in eArmyU can have an academic hold placed on their account that keeps them from enrolling in future courses. The hold can come from a variety of sources, including receiving a failing grade or an incomplete, or withdrawing from a course for either personal or military reasons. In each case, the hold can be lifted only with the counselor's authorization. The high level of eArmyU enrollees in a hold status is an indicator of high workload for ACES counselors.

Although the eArmyU umbrella contract with IBM requires that a 24-hour help desk be available to Soldiers, our analysis indicated that a substantial burden still exists for ACES personnel in resolving problems encountered by Soldiers. We believe this is the case because, although help desk personnel are proficient at resolving technological issues that arise, they are not charged with providing assistance of a procedural or policy nature. Therefore, questions regarding enrolling in courses, obtaining TA, and so forth are referred back to ACES personnel. From October 2004 to August 2005 this happened over 17,000 times. The number of helpdesk cases used in this analysis only includes those which were initiated by Soldiers through the eArmyU helpdesk. An undocumented number of additional requests for assistance are made directly to the education center by Soldiers telephonically, via email or in person. In addition, our examination of data from Quarterly Participation/Cost/Evaluation reports showed that installations where eArmyU was available had a higher number of educational tests administered and a greater number of education center visits than those where it was not. (The results of the statistical analyses supporting these statements are presented in Appendix A, Tables A-3 and A-4.) In both cases, this represents an increase in workload for ACES staff.



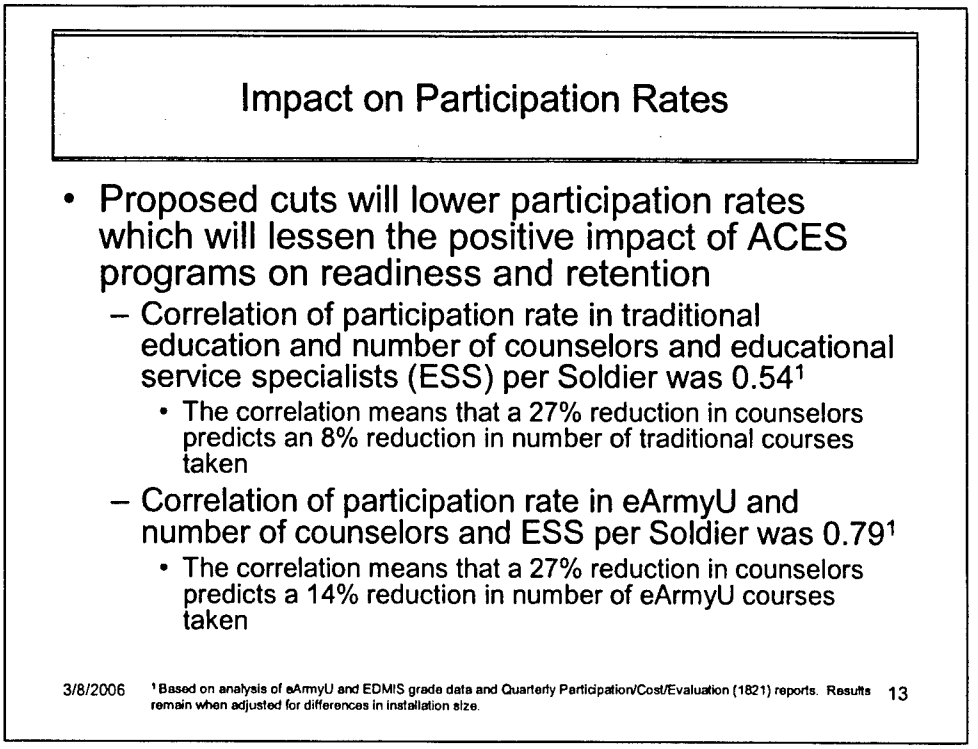
By all accounts, the Army's current Operations Tempo is extremely high, and this has had two effects. First, there has been a call for increased numbers of personnel to alleviate some of the burden that deployments place on the force. Second, various factors, including the war in Iraq, have resulted in a difficult recruiting environment. This has led to a loosening of restrictions on the number of lower aptitude (Category IIIB and IV) and non-high school graduate applicants being admitted into the Army. This change in recruit aptitude will likely lead to the need for ACES counselors to assess the educational needs of more Soldiers and direct them to relevant remedial programs. Correspondingly, it will require a greater number of such programs and additional assessments to identify progress made.

Starting in 1998, the U.S. Army Research Institute embarked on a research program to identify the skills that will be needed by the 21st century Soldier (Ford, Campbell, Campbell, & Walker, 1999; Sager, Russell, Campbell, & Ford, 2005). This was accomplished through literature reviews and workshops with subject matter experts. Among those deemed most important were cognitive aptitude and reading skill. ACES addresses these needs through programs and services that permit lifelong learning for Soldiers.

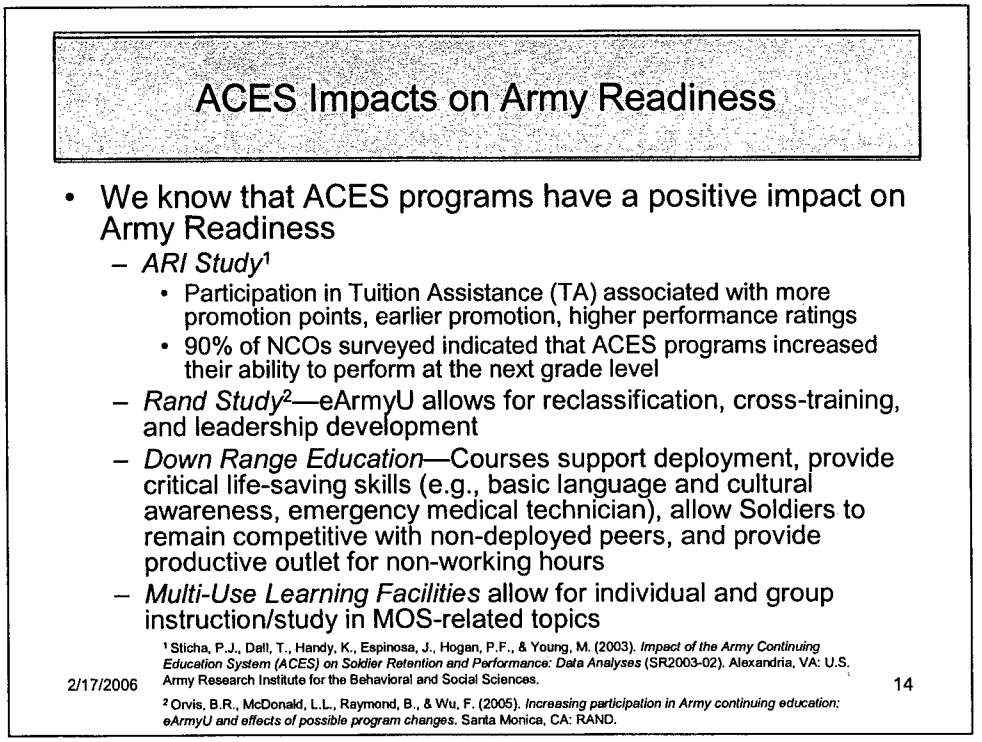


Given the anticipated cuts in counselor personnel, over 7,000 Soldiers will be serving at installations where no DAC education personnel are assigned. Over twice that number will have a single ACES representative. Further, the overall ratio of ACES counselors to Soldiers will jump from approximately 1,000 to 1 in FY 2005 to nearly 2,000 to 1 in FY 2007. Though dated, a 1973 study conducted for Secretary of the Army recommended a Soldier-counselor ratio of 1,250 to 1 (Department of the Army, 1973.) This will obviously make it more difficult for Soldiers to receive services provided by ACES personnel, including academic counseling, administration of interest inventories and diagnostic tests, and assistance in resolving issues that arise with their educational pursuits.

The method used to estimate the Soldier-counselor ratio is shown in Appendix A, Table A5.



We correlated participation rates in traditional and eArmyU programs at individual installations with the total number of counselors and ESS per Soldier at those installations. In each instance the correlation was high. Both participation and the number of counselors and ESS were expressed as rates to factor out differences in installation size. Consequently, the result was not due to the the number of Soldiers at a given site. The correlations were used, along with the means and standard deviations of the related variables, to estimate the size of a reduction in participation in either traditional or eArmyU courses that would be predicted from a 27% decrease in the number of counselors, that is, the anticipated reduction in FY 2007, compared to FY 2006. The results of these calculations indicate that such a reduction predicts an 8% and 14% reductions in participation for traditional and eArmyU courses, respectively.

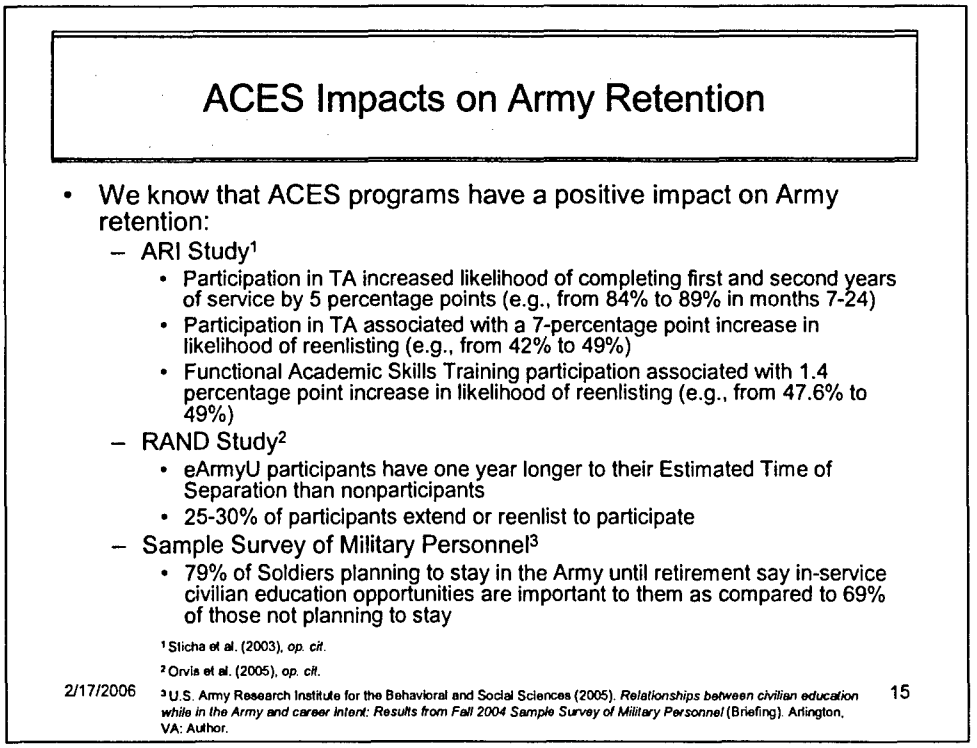


The ARI study found that 15 hours of civilian education supported by TA was associated with increases of 6.7, 2.6, and 1.8 promotion points for NCOs in rank E4, E5, and E6, respectively. This did not include those points awarded specifically for civilian education. Participation was also found to be associated with earlier promotion to rank E6. Finally, NCOs in rank E5 and E6 with a greater number of hours supported by TA received higher performance ratings.

The RAND Corporation's analysis of the impact of eArmyU suggested that the program would facilitate Soldiers obtaining the skills needed for reclassification, and encourage cross-training and leadership development.

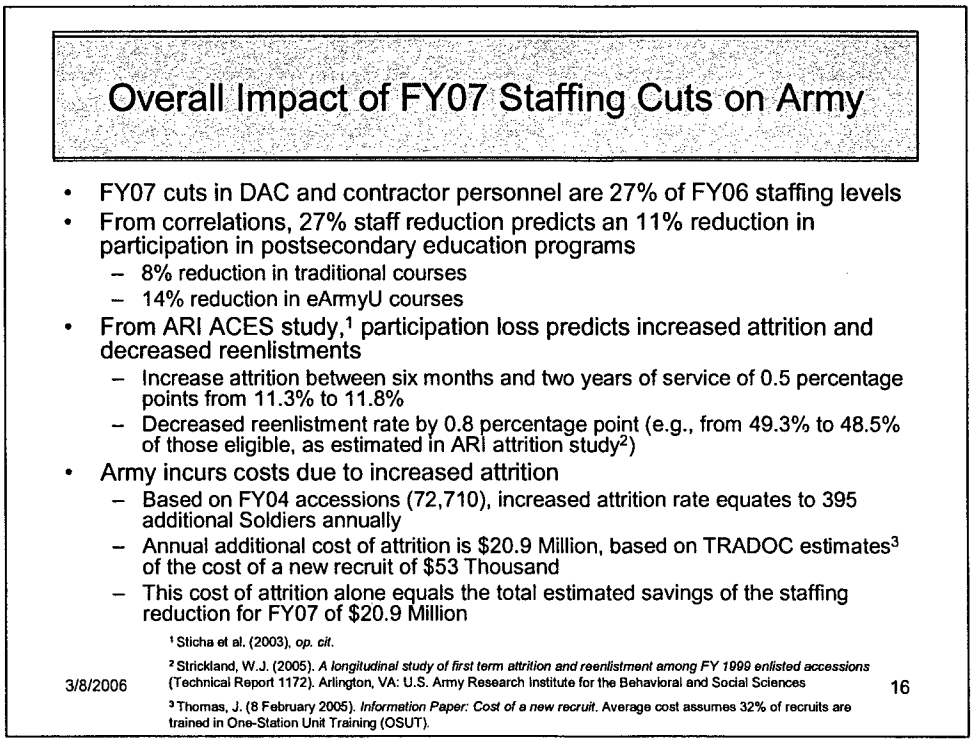
The individuals interviewed who had established and/or managed down range education centers in countries such as Bosnia and Afghanistan stressed that commanders at those locations were particularly concerned with having their Soldiers trained in life-saving skills and obtaining basic language and cultural awareness training that in itself could also be life saving.

Multi-use learning facilities (MLFs) provide resources for individual or group study in general Army and MOS-specific skills to enhance Soldier effectiveness in down range locations. MLFs also support Head Start classes that promote cultural awareness and basic language skills for Soldiers embedded with local nationals. Clearly there is value in having such resources at a centralized, easily identifiable location with staff available to facilitate this training and assistance.



This slide summarizes what has been learned from past research regarding the impact of ACES participation on retention. The following results are detailed:

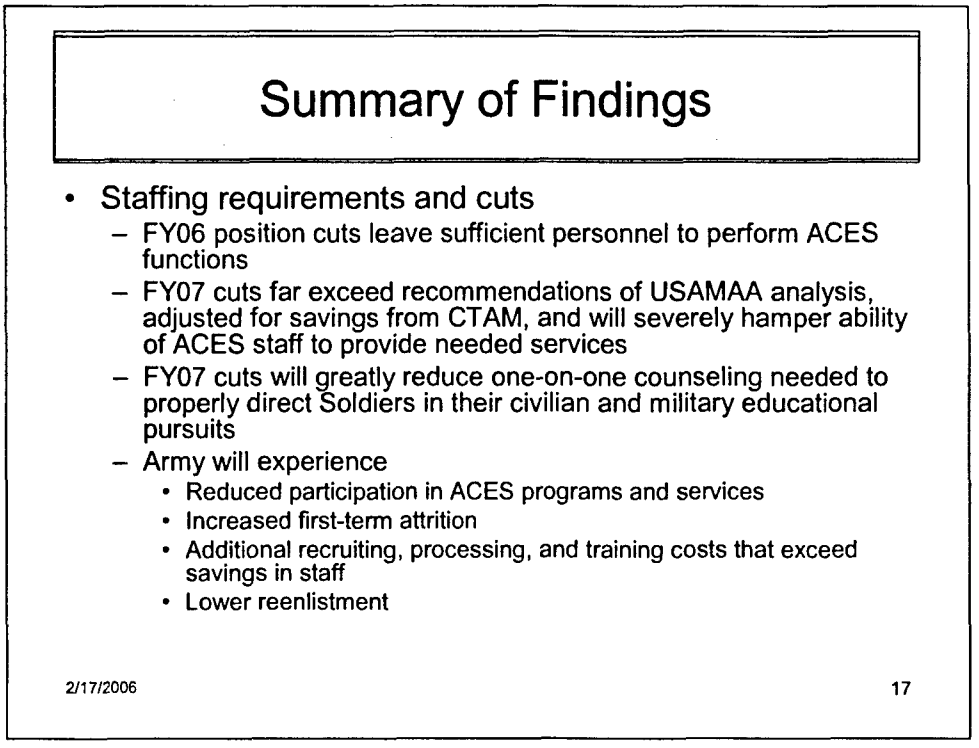
- ARI Study
  - Participation in TA increased the likelihood of completing the first and second years of service by 5 percentage points (e.g., from 84% to 89% in months 7-24).
  - Participation in TA was associated with a 7-percentage point increase in likelihood of reenlisting (e.g., from 42% to 49%).
  - Functional Academic Skills Training participation was associated with 1.4 percentage point increase in likelihood of reenlisting (e.g., from 47.6% to 49%).
- RAND Study
  - eArmyU participants have one year longer to their Estimated Time of Separation than non-participants.
  - 25-30% of eArmyU participants extend or reenlist to continue in the program.
- Sample Survey of Military Personnel
  - 79% of Soldiers planning to stay in the Army until retirement say in-service civilian education opportunities are important to them, as compared to 69% of those not planning to stay.



The overall impact of the FY 2007 staffing cuts on Army costs were calculated based on the estimated effects that the cuts would have on attrition. The calculations were made in the following steps.

1. The correlations between the number of staff and participation predict that the 27% staff reduction for FY 2007 would relate to a decrease in participation by an average of 11%, obtained by averaging the 9% reduction in participation for traditional courses and the 16% reduction in participation in eArmyU courses.
2. The ARI ACES study (Sticha et al., 2003) indicates that participation in TA programs produces a 5-percentage point reduction in attrition, measured between the 6th and 24th month of service. Consequently, an 11% reduction in participation would predict a 0.55-percentage point increase in attrition over that period (5 x 0.11).
3. According to the ARI attrition study (Strickland, 2005), the attrition rate between the 6th and 24th month of service is 11.3%. A 0.55-percentage point increase in attrition would raise that value to 11.9%.
4. Based on the number of non-prior service accessions for FY 2004, which was 72,710, the 0.55-percentage point increase in attrition is 395 Soldiers.
5. TRADOC (Thomas, 2005) estimates the average cost to recruit and train a Soldier at $53 thousand. This estimate assumes that 32% of recruits take part in One Station Unit Training, which is somewhat less costly, while the remaining Soldiers take part in Basic Combat Training and Advanced Individual Training. Based on this estimate, the cost associated with the increased attrition of 395 Soldiers is $20.9 Million.

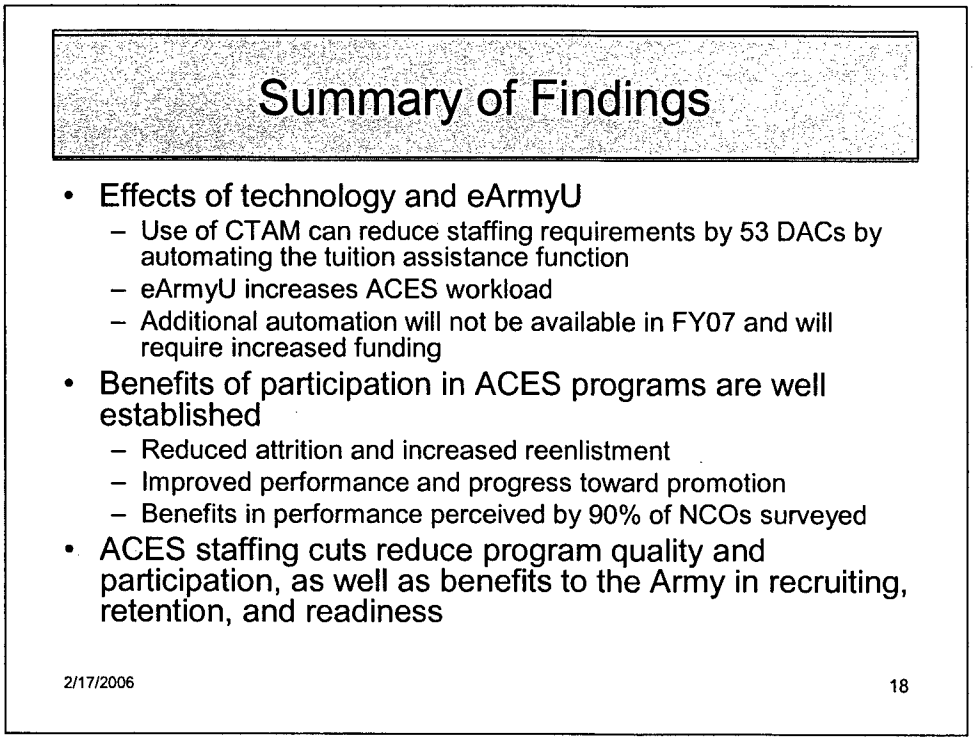
It should be noted that this estimate considers only the attrition that occurs between the 6th and 24th months of service. While it is unlikely that ACES participation has an appreciable effect on earlier attrition, such as from basic training, it is more likely that attrition after two years of service would be improved by ACES participation. Consequently, the reduction in staffing may have attrition-related costs beyond those that were estimated. In addition, there are other costs brought about by reduced staffing. Although these costs will be real, they are more difficult to estimate at this time because the estimating relationships are not known.



In summation, based on the USAMAA analysis, HumRRO concludes that the FY 2006 cuts leave sufficient ACES personnel to carry out critical functions. However, the FY 2007 personnel reductions far exceed the USAMAA recommendations which were based on an objective study of the tasks that need to be carried out, the amount of time required to accomplish them, and therefore the minimum number of required ACES DAC and contractor personnel. When additional reductions are incorporated due to the introduction of CTAM, the FY 2007 cuts still leave staffing levels far short of the baseline ACES requirements.

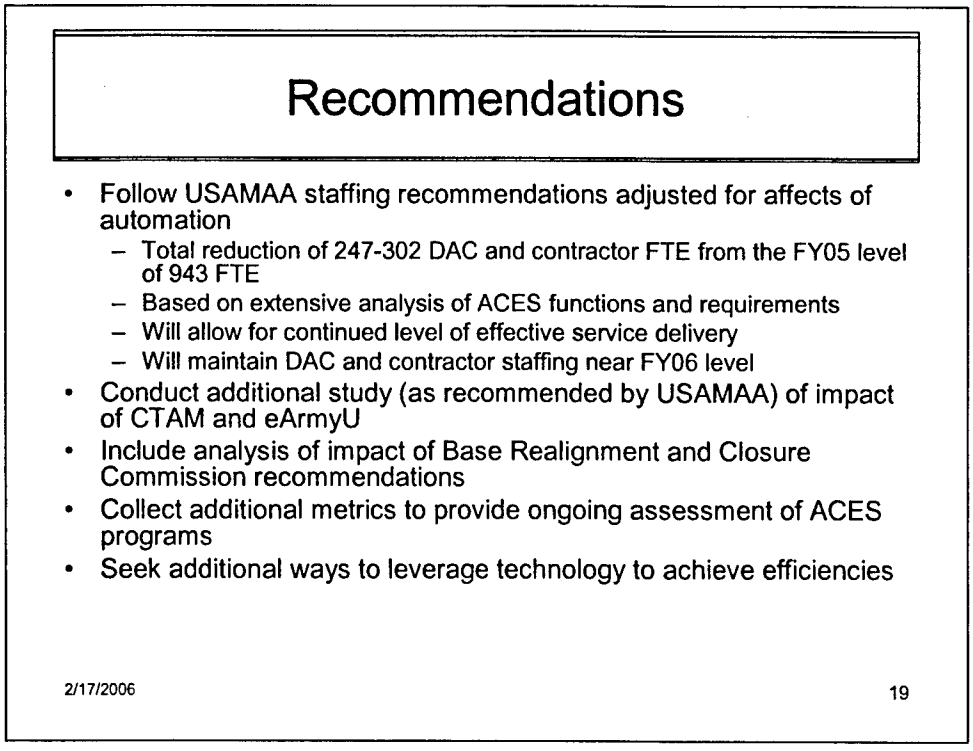
We saw that the counselor-Soldier ratio increases dramatically with increased manpower cuts, and that this ratio is associated with participation in both traditional and eArmyU programs (e.g., the lower the ratio the higher the participation). Based on statistical analyses carried out as part of this evaluation, we predict that lower participation will be associated with higher attrition rates, and that this in turn is associated with increased costs to the Army. In fact, the estimated additional attrition-related costs negate the entire savings realized by the reduction of ACES personnel.

Finally, we know based on the earlier ARI study that participation in ACES programs is associated with higher likelihood of reenlistment. Therefore, we would predict that lower participation would lead to lower reenlistment rates.



The analysis of functions associated with TA, the time required to carry out those functions, and the reduction in effort that will be brought about through centralization and automation, indicated that 53 DAC positions could be eliminated. However, contrary to assumptions, our analysis indicated that eArmyU actually increases the workload for ACES staff because of (a) an overall increase in education program participation, and (b) higher withdrawal and failure rates associated with online learning which increases processing and paperwork duties. Funding for additional centralization and automation initiatives that could result in decreased need for ACES personnel is not available, but would be required to develop and implement such systems.

Based on both previous analyses and those conducted for this study, we conclude that the FY 2007 personnel cuts that have been mandated will have a negative effect on the ability of ACES staff to provide quality services, resulting in reduced participation and a commensurate reduction in the proven benefits to the Army in terms of readiness and retention.



Based on all of the above, we recommend that decisions regarding ACES staffing levels be based on the thorough analysis carried out by USAMAA. Additional research should be initiated to ascertain more exactly the impact that eArmyU is having and that CTAM will have on ACES workload. This research should also take into consideration the impact of the Base Realignment and Closure (BRAC) recommendations in terms of where ACES personnel should be assigned and the numbers at each location. We found that, although there is an abundance of data regarding ACES programs, it is often fragmented and lacks uniformity. We suggest that an effort be made to centralize and expand upon the data collected regarding ACES programs and their impact. Finally, we suggest that additional means of implementing technology to centralize and automate ACES functions be investigated and, where it is determined that cost and process efficiencies can be realized, such technologies should be funded and implemented.

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Appendix A

Results of Statistical Analyses

Table A1. Hierarchical Regression of Total Number of eArmyU Grades

Source	SS	df	MS	F
Population	138,614,954.5	1	138,614,954.5	78.98 **
Residual	75,469,642.5	43	1,755,108.0	
eArmyU Available	8,055,786.6	1	8,055,786.6	5.02 *
Residual	67,413,855.9	42	1,605,091.8	

* p < .05; ** p < .01

Table A2. Hierarchical Regression of Total Number of EDMIS Grades

Source	SS	df	MS	F
Population	107,738,326.3	1	107,738,326.3	81.01 **
Residual	49,206,327.4	37	1,329,900.7	
eArmyU Available	3,153.4	1	3,153.4	0.00
Residual	49,203,174.0	36	1,366,754.8	

** p < .01

Table A3. Hierarchical Regression of Educational Testing

Source	SS	df	MS	F
Population	12,049,862.7	1	12,049,862.7	8.12 **
Residual	57,881,055.1	39	1,484,129.6	
eArmyU Available	4,804,321.2	1	4,804,321.2	3.44 *
Residual	53,076,734.0	38	1,396,756.2	

* p < .10; ** p < .01

Table A4. Hierarchical Regression of Number of MLF Visits

Source	SS	df	MS	F
Population	306,627,314.8	1	306,627,314.8	16.09 **
Residual	743,123,766.4	39	19,054,455.5	
eArmyU Available	64,320,733.3	1	64,320,733.3	3.60 *
Residual	678,803,033.0	38	17,863,237.7	

* p < .10; ** p < .01

Table A5. Procedure for Estimating Soldier-Counselor Ratio

Fiscal Year	DAC			Contractors			Total		Soldier-Counselor Ratio
	Total	%Counselors	# Counselors	Total	%Counselors	# Counselors	Counselors	Population	
FY05	519	0.669	347	424	0.267	113	460	459,846	999
FY06	389	0.669	260	255	0.267	68	328	459,846	1401
FY07	269	0.669	180	199	0.267	53	233	459,846	1974
	This ratio calculated from 3rd quarter FY2004 1821 rollup:			This ratio calculated from contractor hours spreadsheet			Population taken from 07 Cuts spreadsheet		