In this chapter we present the conclusions of our analyses of the potential of distance learning to enhance Army personnel readiness, and we discuss policy and implementation issues that must be resolved for distance learning to help achieve personnel readiness payoffs.

**DL CAN HELP REDUCE PERSONNEL SHORTAGES AND ENHANCE STABILITY**

Based on our first set of analyses, we conclude that the Army can capitalize on distance learning to help reduce personnel shortages and improve fill rates in military occupational specialties, as part of existing strategies to accomplish these objectives. DL is well suited to facilitate reclassification training, support the cross-training of soldiers and the consolidation of MOSs, and accelerate professional education offered to NCOs. DL can help make these existing strategies easier to implement—thus more attractive to soldiers and commanders—and more cost-effective for the Army.

DL can be used to help fill personnel gaps at both SL1 and NCO levels. Moreover, the strategies can improve fill rates without increasing force size, which is not the case with more broadly based accession or retention strategies. Finally, DL-based strategies can decrease the per-soldier cost of reducing shortages, both in terms of the actual costs of training a soldier (by approximately $4,500 in training cost per reclassification) and in terms of later costs of SRBs. While the savings are not budget savings in most instances, DL can increase the efficiency of the overall process of reducing MOS short-
ages and can lead to the avoidance of a significant amount of the future cost of the Army’s efforts to reduce personnel shortages.

From our second set of analyses, we conclude that converting portions of the Army’s resident professional development courses to DL can improve stability and reduce turbulence among officers and NCOs and thereby make them more available to their units. In most cases we considered, this applies to their families as well. The estimated increase in man-years available for unit duties is more than 900 working man-years,\(^1\) even after allowing time to participate in DL courses at home station.

Our analysis points to retaining current patterns for officer career courses, with appropriate shortening of the residential advanced course phase as DL conversions make that possible. Potential PCS savings would likely be more than offset by increased TDY costs if these courses were shifted to a TDY mode, and the family impact of increased separations would be significant. Courses that are already conducted in a TDY mode also show potential for decreasing the time soldiers spend away from home and from unit duties, with modest but unambiguous savings potential as well.

**REALIZING THIS POTENTIAL REQUIRES CHANGES IN POLICY EMPHASIS**

While DL does offer a great deal of promise to help the Army deal with some of its personnel readiness concerns, realizing that promise requires careful planning and implementation of DL programs. Enhancing officer and NCO professional stability means making stability enhancement a major objective of DL and emphasizing this application in the active force. To aid in strategies for reducing personnel shortages, the Army must make these applications a policy priority and select courses to convert that will help the most to reduce personnel shortages. Also, as “critical MOSs” are subject to change, the Army must be prepared to shift priorities and develop new courseware in a timely manner. As of FY99, only 19 of 51 MOSs deemed “critical” with respect to personnel fill had courses in the

\(^1\) Combining our minimum estimates for officer advanced courses (115 man-years) and other courses (800 man-years).
pipeline for conversion to DL. Also, of 44 MOSs that we believe are prime consolidation candidates, only 6 have courses slated for conversion to DL before FY03.

The DL program should make the fullest possible use of emerging learning technologies to help reduce learning time (and, thus, shorten courses), and to allow the completion of significant portions of the training at home station. Furthermore, using DL in this way means creating DL courses that are attractive to students, commanders, and the Army and have sufficient flexibility to easily integrate into varying soldier career paths. This calls for relatively more emphasis on Web-based asynchronous modules wherever possible—and careful scrutiny of those instances in which VTT or other synchronous modes of delivery appear to be required. In particular, for cases in which VTT use can be reduced, this can also reduce associated costs and make facilities more available for other video communication uses. In addition, the DL program should strive to provide sufficient student support to ensure timely course completion, and sufficient administrative support for scheduling, monitoring, and recording training results. Failures in these areas have plagued past DL programs in industry and academia.

We also observe that care must be exercised in selecting course segments to be taught using DL: much of the training the Army needs to conduct is simply not amenable to this approach. For those skills that can be imparted using DL, planners must realistically assess the amount of time needed to train these skills, and the Army must ensure that soldiers have this time made available to them. This means providing for dedicated ("fenced") time and may require promulgation of both Army-wide and local policies describing the requirement to make such provisions. Also, course scheduling will remain an item of interest for students, training managers, and commanders; if anything, DL programs make close coordination and timely use of the Army Training Requirements and Resources System (ATRRS) even more important.

For those applications deemed suitable for DL, further care is needed to ensure that the quality and effectiveness of training is maintained. DL’s ability to deliver the training the Army needs—with no diminution in quality—is a major premise underlying our analyses and, for that matter, the entire DL program. As we have noted, past research
supports the contention that DL can provide training as effectively as
the classroom training it replaces, and possibly more efficiently in
some cases.\textsuperscript{2} Generally, studies of various forms of DL have pointed
toward a tradeoff between superior performance and reduced train-
ing time, compared with the RL courses they are designed to replace.
A likely reason for this effect is that the DL instruction is self-paced,
so students only spend as much time as they need to achieve a given
performance standard. The wider implication of this effect is that
training managers and the Army leadership will face a large number
of choices with regard to the tradeoff between reduced training time
and improved training effectiveness. These choices will be compli-
cated by the desire in some cases to capture the values of group dis-
cussion and close interactions with expert instructors, none of which
can be provided quite as well with DL as they can with RL. Thus, we
emphasize again the need for continued care in selecting course
segments for conversion to DL. Also, as with any RL curriculum,
periodic refinement and adjustment of DL course content will also
be necessary to maintain currency.

It will also be important for the Army to avoid premature confidence
in any major savings estimates. In particular, we caution against
planning on large PCS savings. DL will not reduce PCS moves unless
an independent decision is made to convert courses from PCS to
TDY. Even in those cases where moves might be reduced, any sav-
ings will be largely or completely offset by increased TDY costs.
Furthermore, converting long courses to TDY mode will add more
family separations. Finally, estimates of eventual savings are based
on DL conversions that have not taken place and will not occur until
the Army has worked through its conversion schedule.

The Army will find it fruitful to undertake a more detailed study of
the costs associated with institutional training, including some of the
factors used here, but also extending to school resources: instructors,
support, training materials, courseware development and mainte-
nance, and longer-term facilities and other capital costs. Our pre-
vious DL research has found these costs—even when considering
only the portions of them associated with DL—to be considerable.

\textsuperscript{2}See, for example, Keene and Cary (1992) and Orlansky and String (1979, 1981).
Finally, we note that the tasking to achieve the full potential of DL as part of the Army’s ongoing transformation—either to reduce personnel shortages or to improve stability (“determine means to attain and maintain required levels of personnel fill and stabilization throughout [the] transformation”)—belongs to the DCSPER. As such, ODCSPER must take a more proactive role in ensuring that the current DL program is refocused to fully address the human resource needs of the Army.