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RAND
Arroyo Center

ARMY RESEARCH DIVISION

Research Brief

Army Distance Learning Can Enhance Personnel Readiness

Over the past decade, the Army has become increasingly interested in the potential of distance learning (DL) to address its training needs. DL uses information technologies to deliver training at soldiers' home stations, or at other locations distinct from the source of the training, thus shortening the time soldiers must spend at residential learning facilities. In an effort to increase the efficiency and effectiveness of its training, the Army has implemented the Distance Learning Program. However, some observers have questioned the feasibility of the program as it is currently designed. In the latest of a series of recent reports, RAND Arroyo Center researchers continued their analysis of the potential role for DL in tackling two issues that affect personnel readiness: personnel shortages and personnel instability.

RAND HAS ASSESSED THE POTENTIAL OF DL TO HELP WITH PERSONNEL SHORTAGES

The impact of active-duty personnel shortages on military readiness has been well documented. The Army, like the other services, has faced personnel shortages in a number of military occupational specialties (MOSs). According to RAND estimates, some 5.4 percent of enlisted positions remained unfilled in fiscal year 1999. Moreover, personnel shortages resulted in a number of positions being filled by lower-grade soldiers who lacked the education or training required to prepare them fully for those positions.

Historically, the Army has addressed the issue of personnel shortages by enhancing recruitment, retention, and training strategies. The training process has the potential to reduce shortages and improve readiness by employing a variety of strategies. These include reclassification training; cross-training or MOS consolidation; and accelerating the pace of training. Reclassification training allows soldiers in overassigned MOSs to learn the skills needed to switch to a new, underfilled MOS, presumably avoiding the need to recruit new soldiers to fill those positions. Cross-training qualifies soldiers to perform duties in more than one MOS, so they can informally fill in for soldiers in other MOSs when necessary. MOS consolidation works somewhat analogously: soldiers in two or more occupations are given additional training in order to

form a new combined occupation. Finally, accelerating the pace of education and training enables soldiers to assume their new roles more quickly, thereby reducing the number of positions filled by unqualified personnel.

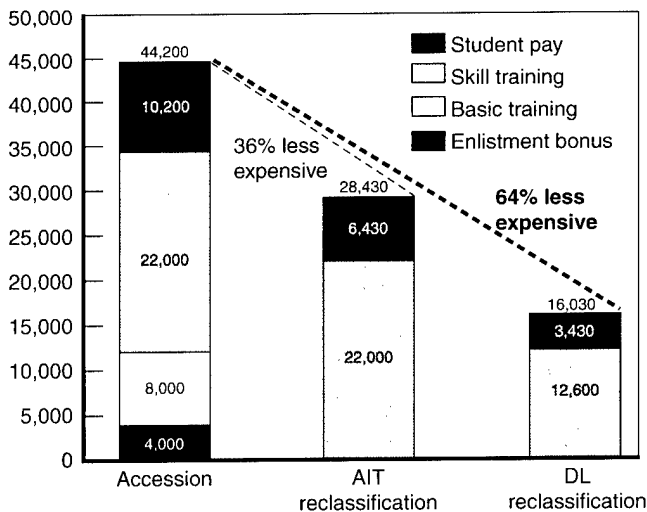
Using tools designed for logistical analyses, Arroyo Center researchers have analyzed DL's likely effect on the ability of these training strategies to decrease personnel shortages. DL's potential advantages over traditional residential learning stem largely from its greater flexibility. Residential learning tends to provide all learners with the same material in the same format over the same period. In contrast, some DL media (e.g., CD- and internet-based materials) support asynchronous learning (that is, learning whenever an individual chooses to) and allow learning programs to be redesigned and offered as modular units, thus tailoring the material to the current skill levels, new assignments, and time constraints of individual soldiers. Moreover, DL can more easily provide refresher training and "just-in-time" training, allowing soldiers to remain proficient in a wider range of skills or to have their proficiency restored when and where needed. Finally, because DL allows training to begin any time it is needed, coursework can be completed in a shorter time interval.

The researchers found that DL has the potential to stimulate an expansion of the Army's reclassification program, decreasing many of the obstacles to entering a new occupation, and, as shown in the figure, at a cost considerably lower than that of traditional residential courses or training new recruits. Similar effects of DL were predicted for cross-training and MOS consolidation as well as training acceleration.

DL CAN ENHANCE SOLDIER STABILITY AND DECREASE PERSONNEL TURBULENCE

The development of military leaders requires ongoing training and education. Fulfilling the training and educational requirements for advancement has traditionally entailed a permanent change of station for as long as six months (in some cases, even longer) or a series of temporary duty assignments to a residential learning facility. Paradoxically, to the extent that institutional training and education programs take leaders away from their units,

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DL Reclassification Is the Least Expensive Way to Alleviate Shortages

these programs reduce unit readiness. Moreover, residential learning exacts both monetary and personal costs: the actual costs of a permanent move or extended temporary assignment and the time away from duties as well as the personal costs that result from time spent away from family or frequent moves.

The researchers assessed the potential impact of DL on personnel stability. Focusing on a representative sample of officer leadership preparation courses, they compared the costs and time away from home for course attendance by DL versus traditional educational settings. They found that converting even part of the coursework into DL would result in significantly greater time spent at a soldier's assigned post compared with courses taken in residence, even taking into account the time required for coursework. These benefits of DL could be extended to many other courses as well.

DL COULD BENEFIT OTHER AREAS OF MILITARY TRAINING AND EDUCATION

Career soldiers are required to undergo periodic training for advancement and to update and refresh their skills. With its ability to be administered in modules, DL has the potential to reduce the costs and time commitment required for this training and to increase the accessibility of civilian education programs. An

additional advantage of DL is that the material can be updated continually and monitored for its use and effectiveness.

DL capabilities can also be applied to general education. In addition to allowing the general level of education among soldiers to increase, Web-based coursework may be used to complete classes and, in some cases, entire university degrees. Although graduate-level courses may be more difficult to convert to a Web-based format than lower-level courses, career officers might be able to complete at least some of the coursework for the advanced degrees they are encouraged to pursue for professional development. The costs of such educational options may be lower for the military than comparable campus-based training would be, and soldiers could complete their coursework without leaving their duty stations.

CHANGES IN POLICY EMPHASIS MAY BE NEEDED FOR THE ARMY TO IMPLEMENT DL

For the Army to realize the promise of DL, some changes in policy emphasis may be needed. Careful planning and implementation will be required, including selection of courses that prepare soldiers for enlisted occupations facing personnel shortages as well as those that enhance professional stability. In addition, new coursework will need to be developed as skill demands change.

To optimize the use of DL, the Army must learn from the extensive experiences of industry and academe and take full advantage of emerging learning technologies. Emphasis should be placed on asynchronous Web-based courses, which have the flexibility to integrate into various career paths and work schedules. However, course content must be chosen carefully for adaptation to a DL environment. Some course material is simply not amenable to DL. The correct balance between DL and residential learning must be established and periodically reevaluated. Moreover, the time required for successful course completion must be realistically assessed, and students must be given the time they need to study and complete coursework, along with administrative support for scheduling, monitoring, and recording training results. Finally, the Army must take care to ensure that DL maintains the requisite quality and effectiveness of training. Some studies of DL have found tradeoffs between effectiveness and the reductions in training time. With these concerns in mind, the researchers recommend that the Army review current applications of DL and refocus it for optimum benefit to training and readiness.

RAND research briefs summarize research that has been more fully documented elsewhere. The research summarized in this brief was carried out in the RAND Arroyo Center; it is documented in Army Distance Learning and Personnel Readiness, by John D. Winkler, Henry A. Leonard, and Michael G. Shanley, MR-1389-A, 2001, 62 pp., \$15.00, ISBN: 0-8330-3040-X, available from RAND Distribution Services (Telephone: toll free 877-584-8642; FAX: 310-451-6915; or Internet: order@rand.org). Abstracts of all RAND documents may be viewed on the World Wide Web (http://www.rand.org). Arroyo Center URL: http://www.rand.org/organization/ardl. Publications are distributed to the trade by NBN. RAND® is a registered trademark. RAND is a nonprofit institution that helps improve policy and decisionmaking through research and analysis; its publications do not necessarily reflect the opinions or policies of its research sponsors.

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