

## Comparable Skills for Contingency and Mobilization Planning

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19990608 127

### Abstract

During the downsizing of the Defense Department resulting from the end of the Cold War, the Services have had to turn over many support jobs to Defense Department civilians and private contractors. Many of those civilian government employees, however, have a military reserve commitment and are sometimes deployed as a military member, not as a civilian employee. Contingency and mobilization manpower planners must back-fill vacant civilian positions, and finding these replacements is a very challenging process. The problem is intensified when planners try to satisfy military shortfalls by attempting to link specialties across the uniformed services since each service has its own occupational classification system. The USAF Armstrong Laboratory is currently conducting a research project to link occupations between civilian and military personnel and among military personnel across all the Services. The research is focused on three possible methods: (1) the use of occupational analysts to perform expert analysis of the specialties by reading job text descriptions and making linkages based on expert judgment, (2) the use of existing automated data bases to link each specialty description, and (3) applying the automated approach to a subset of occupations previously chosen by the Service. Once one or several methodologies is selected for validation, a series of analyses will be conducted to rate the reliability of the methodologies and the accuracy of the linkages. This concept paper will discuss the operational problem, the alternative methodologies that can be used to approach it, and the validation of the alternative methodologies. This paper will cover only the Air Force to Army military linkages, as these linkages are more pertinent to a possible move toward a unified occupational system.

### Introduction

With the current trend of an increased deployment rate for members of all military services juxtaposed against a background of a decreased budget, reduced manpower, and increased training costs, military manpower planners are facing major challenges in reacting to manpower shortfalls (Peters, 1996). An integrated, flexible system based on linking job skills, education, and training across the services is needed for planners to fill shortfall requirements in an accurate but expedient manner. This need is predicated on the routine use of troops from one service to fill critical positions in another service in long range and short term (crisis) planning. Civilians, too, are being considered for deployment to combat areas to fill specialized positions normally filled with military members. In addition, it is very probable that this inter- and intra-service substitution of service members will increase as personnel budgets to shrink and the Services' missions become more diversified. This research effort was initiated to address one of the operational problems identified by HQ USAF Contingency and Mobilization Plans Branch (HQ USAF/DPXCX) to quickly and accurately identify comparable Air Force and Army military specialties for use in resolving shortfalls in wartime manpower demands. "Comparable skills" for this purpose means that job incumbents identified to fill critical shortfall specialties/jobs must be sufficiently skilled to carry out the target jobs during a contingency, emergency, or general war.

### Background

Air Force Instruction (AFI) 38-205, *Managing Wartime and Contingency Manpower*, explains how the Air Force develops and implements wartime and contingency manpower plans. The manpower planning functions, defined explicitly for deployment and in-place forces, are designed to ensure that the Air Force augments the right organizations and geographic locations, at the right time, with an appropriate number of personnel having the necessary specialties and skills. The following information, paraphrased from AFI 38-205, outlines some basic concepts in mobilization and contingency manpower planning leading to the operational problem addressed in this research effort.

Manpower planners at Headquarters Air Force, Major Commands, field operating agencies, and the base level all perform deliberate planning functions in peacetime to prepare for actual wartime or contingency mission execution. Deliberate planning identifies mission manpower needs, resources available, and mismatches between the two during peacetime so commanders and their staffs will be skilled in their crisis responsibilities and aware of their unit's capabilities and limitations. Crisis planning is procedurally similar to deliberate planning, but

responds to specific real-world events in a much shorter period of time.

In a crisis, mismatches in requirements and resources are resolved at each successive level of command, starting with base-level and working up through HQ USAF. The objective is to sustain actual mission capabilities by providing correct numbers of skilled people where and when needed. In this process, forward deployment of military assets to serve theater augmentation needs in an area of responsibility (AOR) generally takes precedence over in-place needs in the continental United States (CONUS) or overseas outside the AOR. During base-level analysis, shortages identified are compared to excess capability in other units. Commanders may direct assigned or attached personnel to fill these needs. They can prioritize or eliminate work which is not important to their immediate tasking. They may also have authority to hire additional civilians or contractors to fill mission needs from the local population. When all local sources have been exhausted, shortages and overages are reported to the next echelon in the chain of command for possible resolution. At HQ USAF, in addition to other options, shortages can be addressed by acquiring authority to mobilize units, Unit Type Code (UTC) force configurations, or individual members of the Air Reserve Component (ARC). It is also possible to redirect USAF civilian personnel evacuated from crisis areas under noncombatant evacuation operations to fill suitable requirements elsewhere in the Air Force.

In deliberate planning, mismatches are also resolved at successively higher levels in the chain of command. However, the intent in this instance is to accomplish at least one of two objectives: (1) to restructure the work force which the Air Force recruits, trains, and employs in peacetime to more closely match expected wartime demands, or (2) alter the Air Force functional concepts of wartime operation to live within the capabilities of the peacetime force. In deliberate planning, commanders do not direct assigned or available personnel to fill shortages, and do not hire additional civilians or contractors, although they may direct local planners to do so in an actual crisis. Mismatches which cannot be resolved locally or at intervening levels are collected at HQ USAF Programs and Evaluation (PE) for resolution through other options described in attachment 4 of AFI 38-205.

In May 1995, The Air Staff office, which has primary responsibility for formulating concepts and policies for manpower contingency and mobilization planning, AF/DPXCX, requested assistance in resolving the following problem in deliberate and crisis manpower planning:

The deliberate (and crisis) planning process is used to identify total requirements (supplies, equipment, personnel) for the enemy threat and assigned task. Currently we identify military requirements by rank and Air Force Specialty Code (AFSC) and civilian requirements by grade and occupational series. These requirements are specifically identified as either military or civilian. We need the capability to fill a requirement by either a military member or civilian employee, whichever resource is most readily available. This is complicated by the lack of a system indicating the correlation between military AFSCs and civilian occupational series. Further, since military operations are most often undertaken using joint forces, it is necessary that this correlation be expanded to include Army, Navy, Marine, and Coast Guard equivalents of the Air Force AFSC for military members.

The problem cited stems from the fact that military occupational categories by themselves are generally too broad for mobilization planning purposes. This problem is not new, however. In August of 1949, the Joint Chiefs of Staff sent a memorandum to the Secretary of Defense requesting the initiation of a study to relate all Army, Navy, and Air Force jobs to a common occupational structure (Mitchell and Driskill, 1966, p.122). To identify Air Force specialties that can substitute for Army Military Occupational Specialties (MOSs), AF/DPXCX must either read narrative descriptions of AFSCs and MOSs or receive assistance from functional area managers within the Air Force and other services who jointly determine the needed comparable specialties. Currently, AF/DPXCX does not consult the existing conversion index under development and maintenance by Defense Manpower Data Center because it does not contain the needed level of detail for mobilization planning. In fact, no existing military-military conversion table (e.g., Military Occupational and Training Data (MOTD), DOD Occupational Code (DODOCC), DOD Occupational Conversion Index, Occupational Data Base (ODB)) is adequate because military occupation categories by themselves are generally too broad for mobilization planning purposes.

### Objective

The objectives of this effort are to develop and implement an automated capability for use by manpower planners to identify comparable skills during wartime manpower planning. The resulting capability will use, when appropriate, existing Air Force, Army, and DOD data sources and specialty crosswalks/codes and employ a delivery system and data base update procedures that facilitate wide access to up-to-date information by manpower planners in the Air Force and Army. If the Air Force and Army military specialty linkage capability

developed in this effort meets AF/DPXCX approval for full implementation, the resulting methodology will be transferred to the Defense Manpower Data Center (DMDC) and other service linkages will be developed in a separate collaborative effort by DMDC and Armstrong Laboratory.

## Methodologies

### Methodology One

The first possible linkage methodology involves using a manual approach to make linkages based on such criteria as job content, required qualifications, and experience. The sources for these criteria are classification manuals and formal training school literature. The linking elements are the AFSC and the MOS. Evaluation of the linkages will be accomplished through the use of a team comprised of three analysts who reach a consensus at each step of the linkage process. In this methodology, the team will select a primary occupation from either of the two services, outline the major duties, and list the required qualifications. Next, the team will review other related jobs in that same service to identify occupations with the same or overlapping job content. From that point, the linkage team will move to the other Service and identify similar occupations by reviewing career field titles and job content. These similar occupations from the other Service will be compiled into a list of potential matches to be used for comparison to the original chosen in the first Service. The team will then evaluate the equivalence of job content between the primary job in the first Service and the comparison occupation in the other Service. The analysts will each rate the overall match in job content on a 3-point scale: 1 = weak match, 2 = moderate match, and 3 = strong match. The analysts will then reach a consensus rating as to the strength of the match on job content. This rating process allows for no compromises; that is, only a consensus rating of "3" is considered a match. If the team does agree on a rating of 3, they proceed to evaluate the qualifications for that same job. If a team agrees on a rating below 3, it will disregard that comparison occupation and move to the next comparison occupation in the other Service. Once the team rates job content at 3, they move to evaluating job qualifications. The process is accomplished much the same as rating job content equivalence: Education requirements, course requirements, and certification are examined in detail for both occupations and assigned a 1-3 rating. If the consensus rating is 3, an overall match is indicated between the two Services on that particular occupation. As above, if the rating is below 3 on the overall match, then no match exists, the occupation is disregarded, and the team moves on to the next comparison occupation. This process is iterative and will continue until all occupations on the comparison list have been evaluated.

This methodology has some definite advantages and disadvantages for the user. One advantage is that the linkages formed under this methodology should be the best possible and require no additional effort by the user to ensure a correct match. The rating system is designed in such a way that a proposed match must meet or exceed the requirements of the shortfall it is intended to fill. However, due to its uncompromising nature, this methodology may ignore some potentially useful linkages. Another possible drawback is that this methodology allows for an overqualified occupation to be linked with a shortfall occupation, thus possibly wasting resources.

### Methodology Two

This methodology takes an automated approach by using existing automated databases to choose comparison occupations in the other Service. Team consensus is replaced with the ratings of individual analysts subject to a quality control review by a separate team of analysts. Also, a partial match is retained for use as long as there is some degree of fit between job content and qualifications.

The primary occupation from a Service is selected and outlined in the same way as done in methodology one. Then, potentially equivalent occupations are identified in the other Service through the use of the DODOCC and MOTD automated databases and linkages, which are all currently maintained by DMDC. These DMDC service-to-service occupational linkages provide only a portion of the information needed, and in some cases are grouped at the general occupational level only. If no corresponding occupations are found in these data bases, then the list is developed manually, as in methodology one. At that point, the equivalence evaluation is performed in the same manner as in methodology one. The ratings are given by individual analysts (subject to review), and all linkages are retained with any score they receive. As in methodology one, these steps are iterative until all occupations have been evaluated. Advantages include greater flexibility, as this method allows all possible linkages (including partial linkages), as opposed to just the best linkages mentioned earlier. This greater flexibility allows planners to find a suitable replacement in situations that do not require a perfect match. A disadvantage is that more effort by the user will be required when they are unable to find a perfect match.

### Methodology Three

Methodology three is identical to methodology one, with two exceptions: the process is only applied to a subset

of career fields, and the proposed linking elements include additional descriptors, such as prefixes indicating special knowledge and Special Experience Indicators (SEIs). While methodologies one and two use only the AFSC and MOS as linking elements, this methodology will involve analysis at a very detailed level, focusing on additional descriptors instead of broad occupational areas, thereby increasing accuracy. This is a key element defining what characterizes a job. As Borman (1996) states:

...we should focus subject matter experts on individual work activities rather than on whole jobs when they are making judgments about the importance of knowledges, skills, and abilities for effective job performance. This more detailed focus should ease the problem of such judgment being a function of stereotypes about jobs. (p.264)

The main drawback to this methodology is that it is only effective when one is making linkages between Service-selected subgroups of career fields that have the additional descriptors; therefore, it is not easily generalized to all of the occupations. This means users will have a more limited pool of occupations with linkages.

### **Validity and reliability testing**

Once a methodology is chosen, the validation testing will be conducted by evaluating two components. The first is the reliability of the methodology, which is defined as the consistency of results across different groups of analysts. The second is the accuracy of the linkages, which for this study is defined as the percentage of agreement between groups of occupational analysts. The validity of the approved method or methods will be tested on a small sample of jobs chosen to include a proportionate number of primary occupations from the Air Force and Army that have historically been substituted for one another.

### **Conclusion**

In examining the proposed methodologies, it is evident that the actual choice of a method will be based on the most advantageous set of features within the methodologies. This may dictate the need for forming a hybrid methodology using features from all or one, based on cost, speed of implementation, etc. A final product should ease the problems encountered by planners in filling shortfall requirements, as well as support the Air Force Mission. As stated in Air Force Manual 10-401: "Manpower and Personnel war planning policies and support systems influence every Air Force war plan" (p.174). The establishment of linkages among all of the uniformed Services could be the first step toward a unified DoD occupational system.

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**A . Report Title: Comparable Skills for Contingency and Mobilization Planning**

**B. DATE Report Downloaded From the Internet: 06/04/99**

**C. Report's Point of Contact: (Name, Organization, Address, Office Symbol, & Ph #):**  
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**D. Currently Applicable Classification Level: Unclassified**

**E. Distribution Statement A: Approved for Public Release**

**F. The foregoing information was compiled and provided by:**  
DTIC-OCA, Initials: \_\_VM\_\_ Preparation Date 06/04/99

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