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AUTHOR Smith, Shirley C.
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ABSTRACT

This study reviews the literature on past, present, and projected literacy requirements for United States Navy enlisted personnel, literacy skills of those entering the Navy, and activities developed to bridge the gap between the two. Through an examination of research reports, historical accounts, and instructional methods and materials, the history of reading instruction in the Navy is traced from the early voluntary efforts of chaplains, to the beginning of job-related literacy needs, through the development of formal curricula for incoming recruits, to current experimental efforts to provide job-related literacy training at various points during enlistment. (Author)

NAVY RESPONSE TO THE NEED FOR LITERACY TRAINING DURING MILITARY SERVICE: AN HISTORICAL PERSPECTIVE

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Shirley C. Smith
Research for Better Schools, Inc.
444 North Third Street
Philadelphia, PA 19123

During this century the Armed Forces have moved toward the belief that all enlistees must be able to read at a certain minimum level, regardless of the kind of jobs which they will eventually have to perform. Enforcement of this position has been gradually built into the Navy training system, beginning at the recruit training level, in which recruits presently must read manuals written on a high-school level and pass written exams which employ sophisticated distractors and answer selection techniques. Whether or not all Navy personnel should be proficient readers is a philosophical question that is outside the scope of this paper. What is relevant here is that the Navy has come to accept literacy training as a service it will provide to the men and women it enlists as well as to the civilian sector to which they will one day return. This paper traces the Navy's response to the resultant need for literacy training.[1]

Prior to 1940

Before 1900, Navy training was carried on primarily by the apprentice method, an approach requiring little written instruction. Most enlisted men were not expected to read and follow written instructions. Therefore, literacy did not play an important role in Navy job performance at that time.

In the early 1900's a movement to standardize training programs through the use of printed materials and the development of increasingly complicated equipment, requiring personnel to understand documents regarding their use, led to the establishment of literacy screening tests in 1925, thereby reducing the incidence of illiteracy among incoming recruits. Personnel who could not read were given jobs requiring unskilled labor. As would be expected, they had very low rates of promotion and re-enlistment. (Fletcher, p. 8)

The 1940s

However, the U.S. involvement in World War II sharply reduced the available manpower supply and the Navy was forced to accept recruits who lacked basic literacy requirements. Problems arose almost immediately due to the influx of illiterate recruits. (See Special training program, cited in Fletcher.) By 1944, the Navy had responded by establishing formal literacy training for recruits at the Great Lakes Naval Training Center and at Camp Peary, Virginia. The instruction was based on an earlier program designed by the Civilian Conservation Corps (begun in 1933). The Army had created a similar literacy training program in 1941.

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[1] The history of reading instruction in the Navy from its beginnings in the late 19th century through the 1960's has been well documented by Fletcher. This author is indebted to this source for information on official policies, specific materials used, and standards sought in the programs instituted during that period.

The Navy program, entitled Special Training Program, was based on four assumptions and principles that set it apart from the regular reading programs developed in elementary schools (Fletcher, pp. 10-11):

- The students were adults; therefore, they had well-established oral vocabularies.
- The students came from disparate backgrounds; generally, their only common interest and experience was the Navy.
- Time restrictions dictated that instruction be limited to functional needs only. (A proficiency level equivalent to the beginning of fifth grade was the exit criterion.)
- Instructors had to be forced aw from old patterns of teaching, i.e., rather than fostering rote memorization, they were to teach analysis and synthesis. (The curriculum would be designed to encourage this.)

To force teachers to use an analysis/synthesis approach, basal reading texts were withheld until the trainees had developed some initial reading competencies through the use of workbooks and chalkboard drills. Comic books, specially rewritten to provide a core of Navy-life vocabulary, were used as supplementary materials (Ross, p. 204). When the basal texts were subsequently introduced, they were filled with illustrations of barracks life and information related to actual Navy jobs in order to reinforce and augment the information provided in regular recruit training (Fletcher, p. 13).

The program lasted from 12 to 20 weeks, with recruits being able to take an exit qualifying test beginning in the 11th week. This program was disbanded after World War II, when the manpower shortfall came to an end and the need to include illiterate recruits no longer existed.

Looking back at this program, from the perspective of the history of reading instruction, this program was actually very sophisticated and advanced. For instance its use of Navy-related materials is in keeping with a position which has been argued for vigorously during the last ten years and has only recently become official policy (SECNAV, Note 1). However, perhaps the most interesting aspect of the program was its introduction of a Navy-related vocabulary which stresses "linguistic" word patterns. The basals used in the program, entitled Navy Life, Book I, and Navy Life, Book II, began with a vocabulary based on word patterns (e.g., hat, mat, sat) rather than on a standard basal vocabulary, with its irregular sound-spelling relationships (e.g., come, home). This is particularly interesting in that the use of this kind of controlled vocabulary, based on spelling patterns, was an idea proposed by the eminent linguist Leonard Bloomfield in an article appearing in Elementary English

Review in 1943. According to Nila Banton Smith, in her well-known history of reading instruction, there appears to be no other mention of this technique until the reading profession picked up on Bloomfield's ideas in the early 1960's and a series of publications became available, such as C. C. Fries' Merrill Series, the Sullivan Programmed Readers, and Bloomfield's own Let's Read series.

The 1950s

The Korean War brought a return of manpower shortages, again resulting in the authorization to enlist illiterates and to train them within the Navy. In September of 1951 the Recruit Preparatory Training (RPT) program for recruits lacking basic reading skills was instituted on a full-time basis at three recruit training centers: Bainbridge (MD), Great Lakes, and San Diego. The immediate objective of this program was to prepare the trainee for recruit training. A reading equivalency of the beginning of fifth grade (5.0 RGL[2]) was the proficiency goal. Eighty-five to 94% of those enrolled completed this seven-to-nine week course. Instructors were admonished to work on motivation of trainees and to tailor initial assignments to give the recruits a feeling of success. Instructional materials were prepared by the individual instructors based on some experience which the trainees shared, e.g., trainees explored an engine room, then dictated a story about the experience to the instructor, who wrote the story and used it as the instructional material. Trainees were also encouraged to do more writing, e.g., letters and newssheets. This program was disbanded in 1957 when sufficient manpower was once again available.

The 1960s

In the mid-1960's manpower shortages recurred, this time due to the war in Vietnam, and the need for literacy training arose once again. To meet the demands of another manpower shortage, the Department of Defense in October of 1966 established Project 100,000 "which was to help meet manpower supply problems by spreading marginal personnel throughout all three services" (Fletcher, p. 22). The project was also intended to train "marginal" personnel so that they would be better prepared to return to civilian life if they chose to. The Navy agreed to take 15% of its recruits from this "marginal" group. To meet the needs of Project 100,000, the RPT program was re-established at Great Lakes and San Diego and was retitled Academic Remedial Training (ART). Although Project 100,000 disbanded in 1972, the ART continues today at the three Navy Recruit Training Centers (Great Lakes, San Diego, and Orlando).

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2 RGL indicates the academic grade level and month equivalent of the individual's reading performance, e.g., 5.9 RGL indicates a performance equivalent to that of individuals in the ninth month (.9) of fifth grade (5) based on national norms.

The curriculum for this program has varied over time. Both civilian and military instructors have been and are still being used. Various programs have been utilized, most stressing phonics and using either instructor-developed or commercially-made materials. (See Duffy, 1977, pp. 51-53). Currently an objectives competency program is being used. It is comprised of diagnosis and prescription of a combination of (primarily commercial) materials which are keyed to the teaching of general reading and study skill objectives. Diagnosis, prescription, and recordkeeping for all recruits in the ART are managed by a mainframe computer in Millington, Tennessee.

ART instruction lasts from one to six weeks, depending upon the individual recruit's academic needs and the speed with which the recruit acquires the needed skills. A reading equivalency of the beginning of sixth grade (6.0 RGL) is required for exit. (This is one grade level higher than the exit goal of the RPT and the Special Training Program that preceded it.) Like the two earlier programs, ART is provided only during recruit training. As of this time, no formal reading instruction is available to Navy personnel after they leave the recruit training period.

The 1970's

The last decade has seen considerable activity relative to literacy instruction in the miliatary. This activity can be characterized as a growth in professionalism and extensive research. As a result of this activity, many recommendations and guidelines for literacy training are being developed. And recently, based on these recommendations, new programs, materials, and methodologies are being tried out. Many of these are applications of computer-based technologies and are Navy job specific.

Growth in professionalism. Increased professionalism is seen in the development of a cadre of specialists, both civilian and military, who are extensively involved in literacy training in the military. This development has been aided by the establishment of Navy Instructional Program Development Centers, which bring together education specialists who had previously been spread thinly across the country in the Navy's various "schoolhouses" (Scanland) and by the growth of reading-related activities in other centers, such as at the Naval Personnel Research and Development Center (NPRDC), the Navy's Training Analysis and Evaluation Group (TAEG), the Army Research Institute (ARI), the Human Resources Research Organization (HumRRO), and the Air Force Human Resources Research Organization, all of which bring together top professionals to investigate issues related to military personnel. In addition, professionalism has been further stimulated by the convening of intra-service conferences, e.g., the HumRRO Conference on Reading and Readability Research in the Armed Services (Sticht and Zapf) and by the conduct of literacy-related studies across services, e.g., the General Accounting Office's report on the problems of illiteracy among enlisted personnel (U.S. GAO).

Extensive research. The growth of research related to literacy problems in the military has taken the form of investigations into relations between reading levels of individuals and their chances for advancement (Aiden, Duffy & Nugent; Duffy, 1976; and Sachar & Duffy); reading requirements of specific military jobs (Sticht, Caylor, Kern & Fox; Sticht, Fox, Hauke & Zapf; Duffy, 1977); reading levels of Navy manuals (Biersner); and the mismatch between reading levels of personnel and the manuals which they must read (Duffy & Nugent).

This research has shown conclusively that there is a "literacy gap" between the literacy skills of many Navy personnel and the materials which they are expected to read. As a result, work is being done to bridge this gap from both ends, i.e., by reducing the difficulty of the reading materials and by raising the reading levels of the personnel. To aid in the rewriting of materials, a special military readability formula has been developed by Kincaid of TAEG, and Navy manuals are now being revised on the basis of this formula. (See below, Applications of Computer-Based Technologies.) Several new projects to improve reading skills are also being tested (Curry & Kincaid; Munro, Rigney & Crook; Stolte & Smith; Wisher). And recently, the Navy has extended its support to basic research, e.g., the investigation into the nature of reading difficulties in young adults being conducted at Harvard University by Weaver and Frederickson.[3]

Applications of computer-based technologies. Applications of computer-based technologies range from use of centralized mainframe computers for computer-managed instruction (CMI) to use of stand-alone, mini-computers for both instruction and editing of instructional materials.

A mainframe computer in Millington, Tennessee is currently being used to record test results, prescribe specific instruction, and collect data on instructional time and activities for each recruit enrolled in the ART program at any of the three Recruit Training Commands in the country, and a Control Data mainframe computer is being used for one pilot program, PREST, which is a basic reading skills and Navy recruit training-related study skills program (Stolte & Smith).

A program for teaching Navy-specific vocabulary has been developed for use on a mini-computer (Wisher), and a program using the Flesch-Kincaid readability formula, which has been adopted as the military standard, is currently available. At this time, Navy manuals can and are being put into computerized word-processing. Once on line, they can be evaluated in terms of reading difficulty through use of the Computer Readability Editing System (CRES) as part of their regular up-date process.

3. Weaver, P., & Frederickson, J. A componential approach to locating and correcting disabilities in young adults. Office of Naval Research, Psychological Services Division, 1979 program, No. 450-11.

Navy-specific materials/instruction. The value of Navy-specific and job-related instruction has been discussed for some time (Sticht, Caylor & James, for example) and was officially mandated by the Secretary of the Navy in 1978 (SECNAV).[4] Three indications of this new emphasis on Navy-specific materials and instruction are the development of a program for Navy job-related CAI vocabulary learning (Wisher), a Navy-related adaptation of a commercially available computer-based basic reading program for use with recruits (Stolte & Smith), and a new workbook which used information from basic military orientation to develop drill and practice activities to supplement the present ART curriculum (Curry & Kincaid).

The 1980's

In the 1980's the impact of computer technology will continue to be felt. In addition, the 1980's will most certainly be affected by the application of more stringent criteria for program evaluation. Models for front-end analysis and examination of manpower utilization, already being used in the acquisition of systems and hardware throughout the military, will surely come to be applied to the acquisition of learning systems and materials as well. Through the applications of these models, closer attention will be paid to selection of objectives taught, personnel and time involvement, and cost-effectiveness relationships. Developers will have to satisfy more stringent standards.

Armed forces language instruction became the model for the language lab approach which is the preferred model in America today. The military has long been recognized as the biggest job trainer in the whole country, and now their vocational education models are being considered for possible conversion to civilian use (Orth). The U.S. military services are in the unique position of being able to develop and implement programs which will improve the literacy skills of thousands of young adults. They have the resources with which to draw upon the expertise of the most capable professionals in the field of reading today and to use their expertise to find and adapt the best available programs, materials, instructional methods, and delivery systems which are available. And the Navy is starting to do just that.

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4 SECNAV Instruction 1510.3, Remedial training basic skills, 2 June 1978.

References

Aiken, E. G., Duffy, T. M., & Nugent, W. A. Reading skill and performance in a sample of Navy Class "A" schools (NPRDC Tech. Rep. 77-28). San Diego, California: Navy Personnel Research and Development Center, April 1977.

Biersner, R. J. Reading grade levels of Navy rate training manuals and non-resident career courses (CNET Tech. Rep. 2-75). Pensacola, Florida: Chief of Naval Education and Training, May 1975.

Bloomfield, L. Linguistics and reading. Elementary English Review, April-May 1942, 19, 125-130; 183-186.

Bloomfield, L., & Barnhart, C. L. Let's read. Detroit: Wayne State University Press, 1961.

Chief of Naval Technical Training, Literacy skills curriculum for academic remedial training. Memphis, Tennessee: Memphis State University, 1979.

Curry, T. F., & Kincaid, J. P. Improving your Navy reading skills. Orlando, Florida: Training Analysis and Evaluation Group, May 1979.

Duffy, T. M. Literacy research in the Navy. In Sticht, T. G., & Zapf, D. W. (Eds) Reading and readability research in the Armed Services (HumRRO FR-WD-CA-76-4). Alexandria, Virginia: Human Resources Research Organization, September 1976.

Duffy, T. M. Literacy training in the Navy. In Fletcher, J. D.,Duffy, T. M., & Curran, T. E. Historical antecedents and contemporary trends in literacy and readability research in the Navy. (NPRDC Tech. Rep. 77-15) San Diego, California: Naval Personnel Research and Development Center, January 1977.

Duffy, T. M. & Nugent, W. A. Reading skill levels in the Navy. (NPRDC Tech. Rep. 78-19). San Diego, California: Navy Personnel Research and Development Center, April 1978.

Fletcher, J. D. Historical perspective on literacy training in the Navy. In Fletcher, J. D., Duffy, T. M., & Curran, T. E. Historical antecedents and contemporary trends in literacy and readability research in the Navy (NPRDC Tech. Rep. 77-15). San Diego, California: Navy Personnel Research and Development Center, January 1977.

Fries, C. C., Fries, A., Wilson, G., & Rudolph, M. K. A basic reading series developed upon linguistic principles. Columbus, Ohio: Merrill, 1965.

Gates, A. I., & MacGinitie, W. H. Gates MacGinitie Reading Test, Survey D. New York: Teachers College Press, 1965.

Kerr, N. J., & Harrison, C. The role of computers in systems of individualized instruction in the Navy. Paper presented at meeting of the American Psychological Association, New York, September 1979.

Munro, A., Rigney, J. W., & Crook, D. E. A formative evaluation of a computer-based instructional system for teaching job-oriented reading strategies (Tech. Rep. 84). Los Angeles: University of Southern California, Department of Psychology, January 1978.

Orth, M. Department of Defense Curricula: Feasibility of conversion for vocational education. Paper presented at meeting of American Educational Research Association, Boston, April 1980.

Sachar, J., & Duffy, T. Reading skill and military effectiveness. Paper presented at the meeting of the American Educational Research Association, New York, April 1977.

Scanland, W. The roles of civilian education specialists and officer Education and Training Management Specialists in the U.S. Navy. In C. R. Vest (Ed.), Proceedings of the Second International Learning Technology Congress & Exposition on Applied Learning Technology (Vol. 4). Warrenton, Virginia: Society for Applied Learning Technology, 1978.

Smith, N. B. American reading instruction. Newark, Delaware: International Reading Association, 1965.

Special training program (unpublished report). Washington, D.C.: Bureau of Naval Personnel, 1951, as cited in Fletcher, J.D. Duffy, T. M., & Curran, T. E. Historical antecedents and contemporary trends in literacy and readability research in the Navy (NPRDC Tech. Rep. 77-15). San Diego, California: Navy Personnel Research and Development Center, January 1977.

Sticht, T. G., Caylor, J., & Jones, J. Job-related reading tasks: Teaching marginally literate adults to read. Alexandria, Virginia: Human Resources Research Organization, October 1978.

Sticht, T. G., Caylor, J., Kern, R., & Fox, L. Determination of literacy skill requirements in four military occupational specialties. (HumRRO Tech. Rep. 71-23). Alexandria, Virginia: Human Resources Research Organization, December 1971.

Sticht, T. G., Fox, L. C., Hauke, R. N., & Zapf, D. W. The role of reading in the Navy (NPRDC Tech. Rep. 77-40). San Diego, California: Navy Personnel Research and Development Center, September 1977.

Sticht, T. G., & Zapf, D. W. Reading and readability research in the Armed Services (HumRRO Tech. Rep. FR-WD-CA-76-4). Alexandria, Virginia: Human Resources Research Organization, September 1976.

Stolte, J., and Smith, S. C. A computer-based approach to functional literacy training for recruits: Performance-related enabling skills training (PREST). Paper presented at the meeting of the American Educational Research Association, Boston, April 1980.

Strickland, R. G. The contribution of structural linguistics to the teaching of reading, writing, and grammar in the elementary school. Bulletin of the School of Education, Indiana University, 1964, 40 (1), 10.

U. S. Government Accounting Office. A need to address illiteracy problems in the military services. Washington, D. C.: Author, 1977.

Wisher, R. A. Efficient approaches to learning job-related vocabulary using CAI. Paper presented at the meeting of the American Educational Research Association, Boston, April 1980.