Alternate Routes to Teacher Certification

Sue Anderson
With
Edie Harding

October 1999

Washington State Institute for Public Policy
110 East Fifth Avenue, Suite 214
Post Office Box 40999
Olympia, Washington 98504-0999
Telephone: (360) 586-2677
FAX: (360) 586-2793
URL: http://www.wa.gov/wsipp
Document No. 99-10-2901
MISSION

The Washington Legislature created the Washington State Institute for Public Policy in 1983. A Board of Directors—representing the legislature, the governor, and public universities—governs the Institute, hires the director, and guides the development of all activities.

The Institute’s mission is to carry out practical research, at legislative direction, on issues of importance to Washington State. The Institute conducts research activities using its own policy analysts, academic specialists from universities, and consultants. New activities grow out of requests from the Washington legislature and executive branch agencies, often directed through legislation. Institute staff work closely with legislators, as well as legislative, executive, and state agency staff to define and conduct research on appropriate state public policy topics.

Current assignments include projects in welfare reform, criminal justice, education, youth violence, and social services.

BOARD OF DIRECTORS

Senator Karen Fraser  Lyle Quasim, Department of Social and Health Services
Senator Jeanine Long  Dick Thompson, Office of Financial Management
Senator Valoria Loveland  David Dauwalder, Central Washington University
Senator James West  Jane Jervis, The Evergreen State College
Representative Ida Ballasiotes  Marsha Landolt, University of Washington
Representative Jeff Gombosky  Thomas L. “Les” Purce, Washington State University
Representative Helen Sommers  Ken Conte, House Office of Program Research
Representative Steve Van Luven  Stan Pynch, Senate Committee Services

STAFF

Roxanne Lieb, Director
Steve Aos, Associate Director
EXECUTIVE SUMMARY

Washington and 40 other states have instituted one or more “alternate routes” to teacher certification. An alternate route is one that does not require people to complete a traditional teacher education program at a college or university. Alternate route programs can be based at a university, state agency, school district, and/or educational service district. States pursue alternative routes for three major reasons:

- Meeting teacher shortages;
- Drawing experienced professionals into teaching; and
- Recruiting teachers from under-represented groups.

Two alternative certification programs are in existence nationwide: Troops to Teachers and Teach for America. Both programs have successfully recruited higher percentages of minority teachers than traditional certification routes.

Mature candidates are attracted to alternate routes because the programs include “learning by doing” internships that also provide a salary. These programs often take previous work experience and training into account when developing courses of study for their students.

The Institute examined programs in 12 states and the District of Columbia in the following areas:

- **Preparation.** The majority of programs provided a summer of pre-service training followed by a one- to three-year paid internship.

- **Cost.** In half the states, the candidate paid for the training. In two states all training costs were paid by the state, and in the other states the costs were shared between the candidate and state or school district.

- **Percentage of Alternate Route Teachers.** Few states actually certify a large percentage (greater than 20 percent) of teachers through the alternative certification route.

Currently, no true alternate routes exist in Washington, despite a perceived demand on the part of some potential teacher candidates. In Washington State, school districts are allowed to hire an individual on an emergency or conditional certificate if a certified candidate is not available. The State Board of Education (SBE) created a pilot internship route for alternative certification in 1991. These regulations expired August 31, 1999. Two alternative certification programs were tried in Washington but did not work, due in part to the reluctance of school districts to hire interns with alternative certificates when an adequate supply of new teachers who completed the traditional certification process were available.

---

1. The District of Columbia also has an alternative certification program.
2. Troops to Teachers also connects candidates to traditional certification programs.
INTRODUCTION

Motivated both by teacher shortages and an interest in attracting mid-career professionals into the teaching force, 41 states and the District of Columbia have instituted one or more “alternate routes” to teacher preparation. An alternate route is one that does not require people to complete a traditional teacher education program at a college or university. Programs are based in a university, state agency, school district, educational service district, or some combination of the four. Some programs consist of a summer of pre-service training, after which the candidate becomes a paid intern, assuming full teaching duties as the teacher of record for a classroom. In other programs, interns do not take on full teaching duties until mid-year or teach only part of a day. Interns are generally provided with intensive mentoring and supervision and continue their course work during the school year; they may also be required to complete additional course work during the following summer.

Once the candidate has satisfactorily completed the school year and, in some states, passed certain assessments administered to all teacher candidates, he or she receives an initial teaching credential and has the same status as any successful graduate of a state-approved, university-based traditional program.

Reasons for Alternate Routes

Meeting Teacher Shortages. While many states prepare, through traditional routes, a surplus of teachers, the endorsements of those teachers do not necessarily match the vacancies in schools. Most states, even those with a teacher surplus, have trouble filling vacancies in special education, mathematics, science, English as a Second Language (ESL), and foreign languages. A school’s geographic location can also affect its ability to fill all positions. At no time in the twentieth century have all urban teaching positions been filled, despite the preparation of more than an adequate number of teachers. Recruiting New Teachers, Inc., released a survey in May 1996 that found 77 percent of urban school districts had shortages in certain areas.

Drawing Experienced Professionals Into Teaching. In response to concerns about teacher quality, some states have developed alternate route programs to draw people with professional expertise and maturity into the teaching profession. Internship programs tend to take into account the workforce experiences and skills that mid-career professionals already possess, focusing less on subject matter and more on instruction and classroom management. The “learning by doing” approach of alternate routes appeals to mature professionals who may want a career change or a new challenge.

---

6 Stoddart and Floden, “Traditional and Alternate Routes to Teacher Certification,” 8.
candidates. However, such an approach may be difficult for young adults with little workforce experience. In recognition of this, Idaho has limited access to its alternate route to people who have obtained their BA/BS at least five years previously.

Teaching internships are also attractive to mid-career professionals because they can continue to earn a salary while becoming a teacher. Mid-career candidates often have significant financial responsibilities and cannot afford to take one or two years off to obtain a teaching credential through the traditional route. Most alternative certification programs deduct fees from an intern’s salary to cover the costs of mentoring and workshops, but there are cost savings to a candidate over tuition and lost earnings incurred in a traditional program.

**Recruiting Teachers From Under-represented Groups.** Alternate routes have been more successful than traditional programs in bringing under-represented groups into the teaching profession. Minority candidates comprise 20 percent of the alternate route population in New Jersey and 43 percent in Texas. Only 9 percent of the candidates in traditional programs are from minority groups in both states. Alternate routes also tend to draw more men into elementary schools, where women are in the majority.

**Effects on Student Achievement**

How do students fare in classrooms staffed by alternate route teachers? Results are generally, but not exclusively, positive. A recent study by Florida State University and Georgia State University found no difference in student achievement between students of traditionally-prepared teachers and those of alternate route teachers. The Houston School District found that students of alternate route teachers scored slightly higher in all areas of the state’s standardized achievement tests. In a 1990 study of Dallas teachers, student achievement results were similar between alternate route and traditional route teachers in all areas but language arts; in this subject, students of alternate route teachers scored significantly lower. Both Kentucky and Texas report that some state “Teachers of the Year” have come from the ranks of alternate route teachers.

---

8 Feistritzer and Chester, *Alternative Teacher Certification*, 190.
13 Darling-Hammond, 132.
NATIONWIDE PROGRAMS

On the national level, two programs exist to facilitate the entry of people without teaching degrees into the teaching profession. One of these, Troops to Teachers, accommodates both alternatively-certified and traditionally-certified teachers. The other, Teach for America, is a private, non-profit organization that prepares college graduates, solely through an alternate route, for teaching positions in urban schools that have teacher shortages.

Troops to Teachers

In January 1994, as the military was downsizing, Congress approved the Troops to Teachers (TTT) program to assist former military personnel in becoming public school teachers. Managed by the Defense Activity for Non-Traditional Support (DANTES), an agency of the Department of Defense (DOD), the program was originally given $65 million for FY 1994-95 to pay stipends to former service members who pursued certification as well as grants to the school districts who hired them. While TTT candidates could enter any teacher certification program, at least 51 percent (of the 3,000 TTT candidates) chose to enter an alternative certification program.¹⁵

In 1996, when the program lost its funding, school districts nationwide were still interested in hiring the TTT program graduates. DOD decided to continue operating the program without stipends and grants and established 20 state offices that could maintain the link between school districts and service members. Congress authorized DOD in 1990 to survey states to find which ones had alternate routes for teacher certification; using the state offices, DOD could encourage more states to institute alternate routes and to motivate those with alternate routes permitted by state regulations to use them. State offices were also directed to focus on hiring teachers for low-income schools and shortage areas.¹⁶

Administrators in schools with TTT candidates were surveyed in 1995. The TTT candidates were rated above average or higher compared to other first-year teachers by 75 percent of principals surveyed.¹⁷ In 1998, the TTT program contracted with the National Center for Education Information (NCEI) to survey participants on the same questions that NCEI asked in three national surveys of teachers in 1986, 1990, and 1996. This survey found the following:

¹⁶ Otto Thomas, Chief, Continuing Education unit, Department of Defense; presentation given at the National Association for Alternative Certification annual conference, Bellevue, WA: April 7-10, 1999.
Table 1
Comparison of Overall Teaching Force to TTT Teachers\textsuperscript{18}

<table>
<thead>
<tr>
<th></th>
<th>Overall Teaching Force</th>
<th>Troops to Teachers Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26%</td>
<td>90%</td>
</tr>
<tr>
<td>Minority</td>
<td>10%</td>
<td>29%</td>
</tr>
<tr>
<td>Teaching Math</td>
<td>13%</td>
<td>29%</td>
</tr>
<tr>
<td>Teaching Science</td>
<td>11%</td>
<td>24%</td>
</tr>
<tr>
<td>Teaching Special Education</td>
<td>8%</td>
<td>11%</td>
</tr>
<tr>
<td>Teaching in Inner-city Schools</td>
<td>16%</td>
<td>24%</td>
</tr>
</tbody>
</table>

TTT has also shown higher retention than the teaching population at large. According to an analysis of U.S. Department of Education data, teacher attrition runs about 6 percent per year for an attrition rate of about 30 percent over five years.\textsuperscript{19} About 85 percent of TTT program participants stay in teaching for five or more years.\textsuperscript{20}

Teach for America

In operation since 1989, Teach for America (TFA) is a private, non-profit organization that trains and places a corps of 500 college graduates in inner city schools with teacher shortages at 13 sites each year. Because these corps members do not have teaching degrees, they participate in a five-week training institute in the summer, during which they gain field experience under experienced teachers. Having completed the training, corps members spend two years teaching in an urban school.

Like TTT, TFA has been able to recruit a high percentage of minority teachers (36 percent).\textsuperscript{21} The screening process is selective; nearly 3,000 applicants compete for the 500 placements offered each year. In 1996, 88 percent stayed for the two year commitment;\textsuperscript{22} 56 percent of 1996 corps members indicated an intention to stay in teaching.\textsuperscript{23}

TFA’s program has been controversial. Critics charge that preparation and support are inadequate for TFA teachers, whose disadvantaged students need teachers with more, not less, preparation and experience.\textsuperscript{24}

\textsuperscript{18} Feistritzer, Profile of Troops, 3-8. The NCEI survey responses for overall teaching forces varied in size from 1,000 to 2,000 teachers which represents a very small fraction of all teachers in the United States. The TTT survey covered 1,000 TTT teachers which represents half of the alternate route TTT teachers.


\textsuperscript{22} Ibid., “Statistics/Recruiting History.”

\textsuperscript{23} Ibid., “About/Eval.htm.”

**Alternate Routes in Other States**

By 1998, 41 states and the District of Columbia had developed a variety of alternate routes to teacher certification.\(^{25}\) This section examines alternate route programs offered in 12 states and the District of Columbia which, while perhaps serving to ease shortages, are primarily aimed at bringing people with at least a bachelor’s degree in a field other than education into teaching. All programs include formal instruction in theory and practice, and students work with a trained mentor or supervisor. See Table 2 for a matrix displaying the characteristics of these 14 programs.

**Preparation.** Eight programs follow the summer pre-service training model, followed by a one- to three-year paid internship as the teacher of record. In one of Kentucky’s programs, interns teach half-days and spend the rest of the day in training. In Minnesota, interns assist a classroom teacher for the first half of the school year and may then take on full responsibility as a substitute or as the teacher of record for their own classroom.

**Length.** Alternate route programs take from 90 days to two years to complete. Most programs take one year. Course work/training for these programs ranges from 200 to 380 clock hours, or 9 to 18 credits. Alternate route certificates last from one to three years. In Connecticut, interns are only teaching under a temporary certificate for 90 days but are also part of the two-year BEST induction program for all beginning teachers and receive some additional assistance.

**Funding.** Candidates pay for the program in six states\(^{26}\) as well as the District of Columbia. California and Kentucky pay all training costs with state funds. In Minnesota, school districts fund the program. Alternate route teachers in Idaho, New Hampshire, and Virginia may share costs with the school district.

**Percentage.** Of the 14 programs surveyed, only three produce 20 percent or more of the state’s teachers (Mississippi, New Jersey, and Texas). California prepares a significant portion of its teaching force through a variety of alternate routes, but only 12 percent by the route that fits the parameters used here. Outside of these four states, very few teacher candidates are prepared through alternate routes.

**Sponsoring Entity.** California is the only state allowing programs to be wholly run by school districts. In Mississippi and Connecticut, state education departments operate the program. All other programs are collaborative efforts on the part of at least two entities. Minnesota cites collaboration between institutions of higher education and school districts as one of its major goals for the alternate route. The state of Minnesota has recently initiated a pilot program that is based in school districts and requires the collaboration of not only higher education, but also parent, community, and business groups.\(^{27}\)

---


\(^{26}\) Colorado, Connecticut, Delaware, Mississippi, New Jersey, and Texas.

<table>
<thead>
<tr>
<th>State</th>
<th>Reasons for Alternative Certification</th>
<th>Basic Program Description</th>
<th>Teachers Who Received Certificates Through Alternate Routes in 1997-98</th>
<th>Who Pays for the Alternative Certification Program?</th>
<th>How Long is the Program?</th>
<th>Who Operates the Program?</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>Attract talented individuals, shortage</td>
<td>Pre-service training, 1-2 year FT internship</td>
<td>12% in this program</td>
<td>State</td>
<td>380 clock hours</td>
<td>2 years</td>
</tr>
<tr>
<td>Colorado</td>
<td>Attract talented individuals</td>
<td>Pre-service training recommended; 1 year FT internship</td>
<td>90 licenses</td>
<td>Candidate</td>
<td>225 clock hours</td>
<td>1 year</td>
</tr>
<tr>
<td>Connecticut</td>
<td>Attract talented individuals</td>
<td>Pre-service training; 90-day temporary certificate, then 2 year initial, FT teaching</td>
<td>162 licenses; &lt; 4%</td>
<td>Candidate</td>
<td>8 weeks</td>
<td>90 days</td>
</tr>
<tr>
<td>Delaware</td>
<td>Attract talented individuals, shortage, increase pool of minority teachers</td>
<td>Pre-service training, 1 year FT internship</td>
<td>17 licenses</td>
<td>Candidate</td>
<td>200 clock hours</td>
<td>1 year</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>Attract talented individuals, shortage</td>
<td>Pre-service training, 1 year FT internship</td>
<td>About 30 licenses per year</td>
<td>Candidate</td>
<td>20 semester hours</td>
<td>1 year</td>
</tr>
<tr>
<td>Idaho</td>
<td>Attract talented individuals</td>
<td>Pre-service training, 2 year FT internship</td>
<td>11 licenses</td>
<td>Candidate pays for credits; district pays for training/mentoring</td>
<td>15-18 semester hours</td>
<td>2 years</td>
</tr>
<tr>
<td>Kentucky I</td>
<td>Attract exceptional individuals to teaching</td>
<td>1 year FT internship</td>
<td>5 in process</td>
<td>State pays for KTIP induction</td>
<td>0</td>
<td>1 year</td>
</tr>
</tbody>
</table>

28 IHE = Institutions of Higher Education
29 Colorado’s Boards of Cooperative Education Services (BOCES) are regional education service centers.
30 DOE = Department of Education (within state).
31 If the candidate is succeeding after 90 school days (half year), he or she is issued a two-year initial certificate and completes Connecticut’s beginning teacher induction and assessment program, BEST.
32 Idaho requires that candidates have received their degree at least five years before applying to the program.
<table>
<thead>
<tr>
<th><strong>STATE</strong></th>
<th><strong>REASONS FOR ALTERNATIVE CERTIFICATION</strong></th>
<th><strong>BASIC PROGRAM DESCRIPTION</strong></th>
<th><strong>TEACHERS WHO RECEIVED CERTIFICATES THROUGH ALTERNATE ROUTES IN 1997-98</strong></th>
<th><strong>WHO PAYS FOR THE ALTERNATIVE CERTIFICATION PROGRAM?</strong></th>
<th><strong>HOW LONG IS THE PROGRAM?</strong></th>
<th><strong>WHO OPERATES THE PROGRAM?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>KENTUCKY II</td>
<td>Response to BA/BS holders who want to teach</td>
<td>Pre-service training; 1 year, ½ day internship</td>
<td>15-20 licenses per year</td>
<td>State pays; interns must teach three years</td>
<td>250 clock hours</td>
<td>1 year</td>
</tr>
<tr>
<td>MINNESOTA</td>
<td>Attract talented individuals, increase pool of minority teachers, increase collaboration between districts and IHEs</td>
<td>Pre-service training, ½ year assisting teacher, ½ year FT intern or substitute</td>
<td>28 licenses</td>
<td>District</td>
<td>Varies</td>
<td>1 year</td>
</tr>
<tr>
<td>MISSISSIPPI</td>
<td>Shortage, attract talented individuals(^{33})</td>
<td>Up to 3 years FT internship</td>
<td>32%</td>
<td>Candidate</td>
<td>9 semester hours</td>
<td>1-3 years</td>
</tr>
<tr>
<td>NEW HAMPSHIRE</td>
<td>Attract talented individuals</td>
<td>Pre-service training, 1 year FT internship</td>
<td>41 candidates; &lt; 2%</td>
<td>Candidate or school district</td>
<td>NA</td>
<td>1 year</td>
</tr>
<tr>
<td>NEW JERSEY</td>
<td>Attract talented individuals</td>
<td>1 year FT internship</td>
<td>24-28%</td>
<td>Candidate</td>
<td>200 clock hours</td>
<td>1 year</td>
</tr>
<tr>
<td>TEXAS</td>
<td>Originally shortage; now to attract talented individuals</td>
<td>Pre-service training, 1 year FT internship</td>
<td>About 20%</td>
<td>Candidate</td>
<td>Varies</td>
<td>1 year</td>
</tr>
<tr>
<td>VIRGINIA</td>
<td>Attract talented individuals, shortage</td>
<td>1-3 year FT internship</td>
<td>6-8%</td>
<td>Varies</td>
<td>15-18 semester hours</td>
<td>1-3 years</td>
</tr>
</tbody>
</table>

\(^{33}\) In 1999, Mississippi proposed revising the current alternate route that would include a Master’s of Arts in Teaching (MAT) with six credit hours in the summer and IHE supervision during the school year for another six credit hours. This program may exist concurrently with the above for one year and then replace it.
WASHINGTON STATE has long allowed districts to hire an individual on an emergency or conditional certificate if no certified candidate is available.34 Districts have used this option sparingly, generally because in most geographic areas and in many subject areas, an adequate supply of traditionally-certified candidates is available. In 1998, SBE modified its rules on the conditional certificate to give districts greater flexibility in hiring people to teach via this route.35

In January 1991, SBE established a pilot internship route to certification36 in response to interest in alternative certification in Washington. This route, open to people with a master’s degree, or a BA/BS and five years’ work experience, differed from the traditional route in that a paid internship would substitute for student teaching. While requiring the same courses as the traditional route, these programs would be offered in the summer. School districts would participate by hiring the interns.

Saint Martin’s College Pilot Program37

With federal grant assistance, Saint Martin’s College, a private college in Lacey, developed a pilot program that met the above parameters. It included a spring pre-program sequence, course work and micro-teaching38 in the summer, and a year’s internship as the teacher of record with mentoring, supervision, and continuing course work throughout the school year and the following summer.

This pilot encountered several problems: (1) the reluctance of school districts to hire interns, (2) district preference for using it to certify educational assistants known to them rather than mid-career professionals, and (3) programmatic issues, including the challenge to design a program that met the needs of people who came in with a variety of skills, finding enough summer school students to supply sufficient student teaching experiences, providing for adequate supervision from college faculty, and not overburdening interns with course work during the teaching period.

Despite several rule changes by SBE, the problems persisted and Saint Martin’s discontinued the program after one cohort.

34 WAC 180-79A-230, Limited certificates. For example, a person who speaks Japanese fluently but does not have a teacher’s certificate could be hired to teach Japanese under the conditional certificate. An emergency certificate is for someone almost done with his or her teacher preparation program.
35 Discussion with Larry Davis at the State Board of Education, September 1999.
36 WAC 180-79-241.
38 “microteaching” is teaching a small group of students.
Troops to Teachers

In 1994, with funding from DOD, a statewide Troops to Teachers (TTT) office was set up at the Office of the Superintendent of Public Instruction (OSPI) to help participants with certification requirements and employment leads. Despite a great deal of interest on the part of Washington military personnel and significant federal funding, no Washington colleges or universities were willing to develop a fast-track option for TTT candidates. Candidates who want to stay in the state enter a traditional preparation program; those who want a faster or less expensive route leave the state to attend a one-semester program at Paine College in Georgia.

Teach for America

In May 1994, SBE amended the WAC for the pilot internship program to allow a special internship certificate for a field test of Teach for America (TFA) in the Seattle School District. TFA interns completed a portfolio and a “performance assessment instrument” to show their effectiveness in the classroom. At the end of their two-year program, they became eligible for an initial teaching certificate. SBE required its Professional Education Advisory Committee (PEAC) to conduct yearly site visits to evaluate the program and make recommendations on its future status by September 1, 1998.

Seventeen interns (11 from ethnic minorities) began teaching in Seattle schools in September 1994. With the initial site visit in March 1995, the PEAC found that the interns were service-oriented with excellent academic, intellectual, and personal qualities. Parents, students, principals, and mentor teachers all rated TFA teachers with higher marks when compared with other first-year teachers.

Problems with the program centered on purpose and organizational issues. TFA’s mission is to provide teachers for two-year terms in urban schools experiencing critical shortages. The Seattle School District did not have a critical shortage of teachers, and instead saw the program as a means to recruit outstanding minority candidates for teaching careers. Coordination among the regional and local TFA staff, the interns, building administrators, and the district mentors was not well developed. The Seattle Education Association was concerned that fully-certified teachers, some of whom were minorities, were being overlooked to make room for TFA teachers, and that TFA teachers would have priority over teachers on provisional contracts during the second year if cuts in the teaching staff needed to be made.

The PEAC made several recommendations for changes to the program and voted to discontinue recruiting another cohort until after the second year’s evaluation. At the same

---

39 Washington is one of four states that does not grant in-state tuition to military personnel.
40 A recent TTT candidate completed a correspondence course with Vermont College of Norwich University, with student teaching supervised by Western Washington University.
41 WAC 180-79-241.
time, TFA decided not to renew the program in the Seattle area due to the disparity of their goals and those of the school district, the opposition of the Seattle Education Association, and TFA's inability to raise even partial funding for the program from the Seattle community.\textsuperscript{44}

**Current Status of Alternative Preparation in Washington**

The regulations for the internship certificate expired on August 31, 1999. Emergency certificates (37 in 1997-98) and conditional certificates (231 in 1997-98)\textsuperscript{45} are sometimes issued when a critical need arises. Seventeen Washington colleges and universities offer MIT (Masters in Teaching) or MAT (Master of Arts in Teaching) degrees, which allow people who already hold a BA or BS to obtain, with additional schooling, an initial teaching certificate. These programs take from one to two years of full-time study. While they may be shorter than regular undergraduate preparation programs, they do not give credit to prospective students for experience or training that they may have received in their previous careers. They also do not provide the paid internships that allow mid-career professionals, many of whom have significant financial responsibilities, to continue to earn an income while pursuing certification.

\textsuperscript{44} Conversation with Wendy Kopp, Executive Director, Teach for America, 4/27/99.
SUMMARY AND CONCLUSIONS

Washington’s two attempts to provide an alternate route to certification, Saint Martin’s pilot program and the Seattle School District’s Teach for America program, encountered a variety of problems, many caused by the competition of these candidates with traditionally-certified teachers. Currently, no true alternate routes exist in Washington, despite perceived demand on the part of potential teacher candidates for such a route, particularly those from the Troops to Teachers program.


Thomas, Otto. Chief, Continuing Education Unit, United States Department of Defense. Presentation at annual conference of National Association for Alternative Certification, Bellevue, WA, 7-10 April, 1999.