Schools Hold Key to Nation’s Security

Written especially for PLANES

by Senator William F. Knowland, of California

Are we neglecting a vital phase in education of the youth of America?

To the educator seeking to enrich his curriculum with the substance of modern existence, the airplane offers a world apart; a world as dramatic in its educational values as aviation itself is dramatic in its continuing conquest of the high skies.

As of mid-1946, only about half of the nation’s high schools had made any organized effort to introduce aviation into their curricula. The percentage of colleges adapting their curricula is even lower. But for other known facts, these aviation education statistics would indicate that less than half the youth of high school and college age are interested, and in the changes occurring in every phase of our lives.

Actually, the statistics indicate that the reverse is true; that the schools are neglecting a phase of education that has urgent implications for the future.

YOUTH AIR-MINDED

In my own state, California, where many of the world’s giant transport planes are built, the Department of Education has long had a very broad aviation program. Several hundred schools, on the secondary and collegiate level, have introduced special courses on aviation materials into their curricula.

Many studies of public opinion have shown that the curve of aviation interest goes up as the age goes down. High school and college youth are the most air-minded age group in the population.

Increased air-mindedness in high schools and colleges follows large enrollment of war veteran students. Ex-servicemen and women either have had actual aviation training, or their war experiences have given them a sharp understanding of aviation’s significance in the scheme of modern living. Aerial progress continually modifies concepts of space, time, distance, and human relationships.

AIR VOCATIONS

Aviation education makes it a valuable source of material for enriching standard curricula subjects such as mathematics, geography, economics, sociology, science, etc.

As a choice of vocation, aviation is demanding an ever more important standing in the schools. Aircraft manufacturing, during the war, the nation’s largest industry, could not by itself today employ all those who would want to work in it, except in the single category of engineers, but a roster of the factories and firms supplying parts, or aviation services will run into the thousands of names. There is a lot of progress yet to be made in this field of aviation education.

In this Atomic Age in which we live, the United States must keep ahead of the field in both civil and military aviation. There can be no resting on past laurels. The fable of the tortoise and the hare should not be forgotten. Out of our schools and colleges will come those who will make sure that we maintain our place of leadership.

Air Education Expands

Aviation education in the schools of the country has reached the highest level of interest since it was started in 1942 as a pre-induction program for high school students.

The latest figures released by the Civil Aeronautics Administration Office of Aviation Education Training show that 20 states now have comprehensive aviation education programs. One other is expected to have its program in full operation by September while in addition twelve states and Hawaii and Alaska have requested aid in the development of programs. CAA hopes that by the time school gets underway one year hence the entire 48 states will have well-planned aviation courses in the high schools and elementary grades. Roughly half of the high schools in the country now offer aviation courses either in the science of aeronautics or in general aviation.

Twenty-seven aviation education teacher training workshops have been held this year in connection with summer sessions of teacher training institutions or other colleges. CAA has assisted in these workshop courses by furnishing instruction study materials and course outlines.

World Buys U. S. Planes

Lend-lease, and sales of surplus and new planes since the end of the war have placed America in a commanding position of leadership, with most of the world’s airlines now using U. S. transport planes.

Nearly 60 foreign airlines and governments in every continent are acquiring approximately 3,000 American transport planes. Most of these are war-surplus two-engine planes, but included are more than 100 new planes on order, predominantly the long-range, four-engine types. The illustration on the left shows how these U. S. planes are distributed about the world.

RUSSIA, ENGLAND LEAD

England and Russia each acquired more than 500 under lend-lease. The largest purchasers of surplus planes are India, Brazil, Australia, Canada, the Netherlands, Netherlands East Indies, Brazil, Australia, Canada, the Philippines Republic, Ireland, France, China, and Venezuela, all with 20 or more. India and Canada have bought more than 100 each.

Our surplus and new planes are providing new air services and expanding old lines in 48 countries. These planes will place many areas of the world on the commercial air map for the first time.
REPORT ON U. S. AIRCRAFT INDUSTRY

S. Report No. 1639, Senate Special Committee to Investigate the National Defense Program, 1946.

Scanned copy available online.

S. Report No. 1639, Senate Special Committee to Investigate the National Defense Program, 1946.

Scanned copy available online.
Every State Must Develop
An Air Education Program

Written especially for PLANES
by Howard W. Sinclair, Assistant Administrator, Training, Civil Aeronautics Administration

Every State must develop an Air Education Program. Educators at every level of instruction are becoming increasingly alert to the needs of students in this Air Age. Approximately one-half the states of the Union have already in effect, or are developing, state-wide programs of aviation education, and the Aviation Training Staff of the Civil Aeronautics Administration recently has received requests for help from additional states.

To serve this growing need, trained educational consultants are being placed in each of the CAA regional offices. These consultants, when called upon to do so, will assist committees planning state-wide aviation education programs. They will aid the state departments of education to implement such programs, will be available to lecture educational groups, and will supply instructional material to administrators and teachers. They also will help teachers prepare adequate outlines, and confer with college administrators who seek advice upon aviation problems.

Much progress already has been made in the program of assistance to our educators. One important advance is the preparation of suitable and adequate materials of instruction. The 20 titles in the Air-Age Education Series, the Demonstrations and Laboratory Experiences in the Science of Aeronautics, and the Aviation Education Source Book are among those prepared under CAA sponsorship.

Until every state and territory of the United States embraces a state-wide aviation education program, concerted attention of the central and regional offices of CAA must be directed to the task of encouraging the formulation of such state-wide programs. Parallelizing these efforts will be those relative to the preparation of the variety of instructional materials such programs require. Plans and materials will bear upon all aspects of aviation training from kindergarten through college; from trade school through the professional school; from pilot to aviation executive.

Continuing long after plans have been adopted by each of the several states, implementation techniques will need to be devised and employed. Inspirational lectures, teacher and operations institutes, teacher training — preservation in-service — all these and other techniques will need continuous application and revision.

The expansion of this educational program is a task demanding much planning and preparation. In this the CAA Aviation Training Staff will endeavor to serve.

**Sources of Free Teaching Aids**

Many organizations offer free or inexpensive teaching aids for aviation. Some issue pamphlets and explanatory materials, while others lend or rent sound and silent educational pictures and strip films.

The Government offers surplus aeronautical equipment of all kinds to tax-supported or non-profit schools for the asking and upon payment of shipping expenses. Inquiries for such equipment should be addressed to: Educational Aircraft Division, War Assets Administration, Washington 25, D.C., or U.S. Office of Education, Washington 25, D.C.

**Pamphlets, Explanatory Materials**


**Office of Public Information, Navy Department, Washington 25, D.C.** — Pamphlets on naval aviation.

**Aviation Education Administration, Civil Aeronautics Administration, Washington 25, D.C.** — Staff of qualified educational specialists to counsel groups and individuals; free outlines, pamphlets to aid educational groups and teachers; booklets, pamphlets, and the National Economy, 35 cents.


**Aircraft Industries Association, 610 Shoreham Building, Washington 5, D.C.** — Pamphlets on social, economic, and military aspects of aviation. Free mailing list for publication "Planes."

**American Airlines, Inc., Air Age Education Research, 10 E. 42nd Street, New York — Pamphlets for educational groups, teachers; books, maps, prints covering all phases of flying and air transportation.**

**Air Transport Association, 1107 16th Street, N.W., Washington 5, D.C.** — Free leaflets, illustrated booklets on air transport industry.

**Institute of the Aeronautical Sciences, 1505 RCA Building, West 30 Rockefeller Plaza, New York City — Will loan books for one week free, except for return postage, to anyone 18 or older who can demonstrate responsibility for return of same.**

**Trans-World Airlines, 10 Richards Road, Kansas City, Missouri — A special kit of maps, folders, color posters for classroom use; special advisory service for teachers.**

**United Air Lines, Park Avenue and 42nd Street, New York — Free folders, booklets, pictures, film strips, recordings (for those having 33 1/2 rpm turntables); specially-prepared teaching kits for grades 1-3, 4-6, and junior and senior high, 25 cents each.**


**Pictorial Section, Office of Public Information, Navy Department, Washington 25, D.C.**

**Office of Aviation Information, Civil Aeronautics Administration, Washington 25, D.C.**

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**PLANE QUIZ**

Seventy per cent score on this quiz is excellent. Sixty per cent is good.

1. What is the most valuable item of work in building an airport? (a) preparation of site; (b) paving; (c) lighting; (d) radio equipment and installation?

2. What percent of U.S. high schools have introduced aviation into the curriculum? (a) 80%; (b) 50%; (c) 17%; (d) 30%

3. What percentage of Federal funds under the new airport program will go for small city airports and community airports? (a) 54%; (b) 83%; (c) 59%; (d) 30%

4. What is the safety record of U.S. lines in miles per fatal accident? (a) better than a million miles per accident; (b) 23 million per; (c) 52 million per; (d) 152 million per.

5. It is accepted as a fact that Germany had outdistanced the world in the field of fundamental aeronautical research. True? False?

6. The only U.S. jet planes thus far successfully flown are fighters. True? False?

7. During 1945 Air Express in the U.S. was a (a) million dollar; (b) $700,000; (c) 15 million dollar business?

8. Recently a man slowed down on a U.S. Army plane in Europe. Is there any law against slowing down on U.S. airline planes? Yes? No?

9. A recent survey by an independent research agency showed that American men think about air travel comfort. What percentage prefers air to rail comfort? (a) 42%; (b) 46%; (c) 56%; (d) 60%.

10. We have 91 wind tunnels in the U.S. How many of these are considered adequate for testing military planes and missiles? (a) 31; (b) 26; (c) none.

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**BACKLOG OF ORDERS FOR U.S. PLANES**

**Military Operational • 2,478**

**Civil Transports • 665**

**SOURCE • U.S. CENSUS BUREAU**
Winfield Daily Courier Gets There Fast

"Flying Newsboys" Deliver Kansas Daily Paper

With the only special air delivery service of any newspaper in Kansas, the Winfield Daily Courier is now delivered to subscribers in Eastern Cowley, Western Chautauqua and Elk counties as soon as it is to Winfield residents. The Courier, with a circulation of nearly 6,000, is located in a city of 9,500 population.

The service was started in October, 1945, as an experiment in air express by the Winfield Air Service, Warren F. Jones, manager, in an effort to extend that type of service to South Central Kansas. It proved so satisfactory and patrons were so pleased with the early arrival of their Couriers that the service was extended to other towns.

The Couriers are now delivered to seven towns, including Atlanta, Deer, Labette, Cedar Vale, Moline, Howard and Grenola. The route is 107 miles, with one and one-half hours required for the trip. If the same route was covered by car, part of it over country roads, it would require five hours for the 175 miles by highway.

AERIAL DROP

When the presses start rolling off the first papers of the day's edition—and it is exactly the same paper as is printed for Winfield readers—the first papers are bundled up and taken by Courier car to the municipal airport east of the city. Out there, the pilot has the plane warmed up ready to go, and the bundles are piled into the plane.

Papers are dropped at several of the towns before the hometown carriers get their papers folded and start on their routes, and the residents in surrounding towns are reading the Winfield news before most of the Winfield folks are.

REGULAR SERVICE

The plane never touches the ground from the time it leaves the field until it returns. Each bundle is dropped from the air, with the plane about 100 feet in the air when the bundle is released. A safe place, some distance from the residential area of each town, has been selected as the dropping site. The height, and the method of wrapping the bundles were determined after considerable experimentation. Local carriers are on the spot to retrieve the bundles and distribute them to subscribers.

The idea of air service developed during the October flood when Couriers were delivered to towns "across the Walnut river" by plane. Since that time the plane has missed making the trip only 10 times, during heavy rain or snow storms.

ECONOMICAL

So punctual is the plane in its rounds that farmers and towns people in the area covered listen and look for the Aerocra trainer each day. The pilot has a number of friends along the route, who have never seen him, but who wave to him each day as he flies over their farms.

The service has proved very satisfactory and costs practically the same as car delivery would, say Carl A. Rott, editor-manager, and W. W. Keith, circulation manager.

Civic Groups Go Airminded

Typical of the expanding aviation activities of local business associations is an announcement by the Flushing (New York) Young Men's Board of Trade that they have established an aviation job-counseling bureau for veterans.

Flushing's commerce group is unique in the vocational guidance phase of aviation promotion, and already has steered a good number of men and women veterans to air jobs. Recent developments, however, show that local business groups are playing an increasingly important part in guiding the U. S. aviation progress.

According to the U. S. Chamber of Commerce, chambers in 14 leading cities have special committees handling aviation matters. In dozens of other cities business groups are sponsoring various aeronautical activities for youth. And, as a testimonial to the growing interest of local businessmen, the Civil Aeronautics Board recently amended its rules of practice to permit chambers of commerce and similar civic groups to intervene in airline and other cases.

An unprecedented growth of airmindedness on the part of local business groups is seen as a result of the new airport building program, from which small cities and towns will receive major benefits.

Air Minded People

The Civil Aeronautics Administration reports an increase of more than 1,000% in civil pilots since 1939.

Facts and Figures

Teacher training programs and school curricula, like planes and airports, must be continuingly designed to match progress in the air age.

Dr. Einstein says mass and energy are equivalent. Thus, one kilogram of matter "atomized" would equal two months' output of the total 1939 electric power industry in the United States.

Approximately 1,000,000 lbs. of lead, used for control surface counterweights, is being recovered from scrapped war planes.

Since the Wrights' flight, aviation has been put to music for bands, orchestras, ballets, chorals, and instrumental solos, not to mention several dozen World War II popular songs.

Researchers, looking for an ideal design for the plane to travel over 1,000 miles per hour, lean to swept-back wings, and eventually, craft resembling roomless space airplanes.

Five years ago altitude records were measured in feet; however, researchers try for miles with each rocket attempt.

Pilots are aided by nearly 5,000 farmers who voluntarily make daily observations for the Weather Bureau.

Several billion words each month pass over airline communications circuits handling passenger and cargo reservations.

Float-plane Boom Is Developing

Float-plane enthusiasts see the new Federal Airport Act as a big boost for development of seaplane anchorages. Its $500,000,000 building fund provides for construction of water as well as land facilities, and float plane flying will provide new markets for manufacturers.