Recent interest may indicate increasing use of radio in foreign language learning despite some of the very realistic obstacles that face the beginner. Shortwave radio can be used imaginatively in a variety of ways, including: (1) increasing the reality, currency, and accuracy of listening comprehension skills; (2) actual communication with speakers of the target language; and (3) stimulating real interstudent communication in the target language. Some of the problems associated with the use of the shortwave radio in the foreign language classroom include: (1) the need for enough money to invest in quality equipment; (2) the need for classroom and non-classroom time; (3) unexpected problems such as differentiates between the skilled and the non-skilled listener, but this problem can be a valuable element in developing listening comprehension skills. An addendum describes the steps in obtaining an amateur license. One must: (1) pay an application fee; (2) pass a Morse Code test; and (3) pass a written test on radio theory and regulations. (AM)
The use of radio in second language teaching has by now a long, honorable, and still meagre tradition. Despite two ERIC reports, a few excellent articles, and sometimes good results, radio is simply not used as widely as it could be. Recent interest may indicate increasing use of radio despite some of the very realistic obstacles that face the beginner.

Radio can be used imaginatively in a variety of ways. These include (1) increasing the reality, currency, and accuracy of listening and listening comprehension skills; (2) actual communication with speakers of the target language and culture; (3) stimulating real interstudent communication in the target language. Let us examine the use of each of these areas in order and also examine frankly the problems presented by each.

1. The world of radio, both Broadcast (BC) and Shortwave (SW) brings the real world into the language classroom. It is a strange but true phenomenon that students will place far greater confidence in a voice from a box rather than in a printed page. For American teenagers, Oz is a real place, much more real - and, indeed, better known - than France or Germany.

Most of America lies within range of daily live radio broadcasts in French and Spanish on the standard AM radio. German is available in many metropolitan areas. In the Philadelphia area the spectrum ranges from the "Lithuanian Hour" to the "Irish Hour." Shortwave broadcasts roll in from around the world and go out,
via the Voice of America, on a twenty-four hour a day basis. The language is clear, well articulated, and at a slower-than-conversational speed. Particularly in news broadcasts and advertisements, large numbers of proper names, cognates, and loan words abound. Broadcasts are current, topical, and intended for easy understanding.

There is literally more material than the average teacher can use--but using some if it is well worth the effort, especially for students in Levels III and above.

First it must be captured--tuned, the volume set, recorded, listened to, and perhaps must be written and packaged. Are students to repeat? then it must be "exploded", are they to paraphrase, answer questions? discuss? report? criticize? All of these bring real language and ideas into real focus.

Most Foreign Language teaching is unsuccessful in the long run because it is unreal psychologically to students--we teach language but we never really have anything important to talk about. Radio can help complete the psychological reality of the target language.

Problems? Sure, the biggest is time. Shortwave listening requires patience. Where is Radio Brazzaville? What time? Buy and learn to use a good receiver. Expect to pay a lot--once. A good receiver should last twenty years.

Spend time listening. Radio listening requires good language skills on the part of the teacher. Radio broadcasts are often noisy and distorted. A dedicated listener often can hear a station where the visitor only hears noise. This isn't what foreign language teachers want. Our students need good, fairly clear reception--but it will take patience and practice to be able to find classroom quality broadcast with some regularity.
Recording should be by direct wire connection from radio to tape recorder, but also audible to the operator. Before recording the radio should be turned on for 30 minutes to avoid "drifting" away from a desired station.

After students have become familiar with the process, tapes can be placed in the laboratory or learning center or issued to the students along with accompanying worksheets— it is better never to do in classtime that which can be done in addition to classtime. Except as a motivational device, random student listening is not profitable.

2. **Amateur Radio** is a motivational medium which has seldom been used by foreign language teachers. There are more than 250,000 "hams" in the United States— probably half of them equipped and licensed for intercontinental two-way voice communications. Daily contacts with Europe or South America are routine.

Planned demonstrations have a way of being demonstrations of Murphy's Law of Electronics— "That which can go wrong, will." Temporary or portable stations usually do not perform as well as have stations so classes are better off to visit a ham unless he or she can come to school for several hours. With a phone patch, incoming transmissions can be brought into the classroom over the intercom system.

Amateurs with established routine contacts with friends who speak the target language can arrange a scheduled contact in which students can participate. Questions can be written out, students selected to speak and alternative plans made.
Radio amateurs in some countries are restricted in the topics they may discuss or may be prohibited from talking to persons other than the American amateur. The local American radio amateur will be aware of nations which prohibit "third party traffic" (it competes with the money-earning telephone systems, often a government monopoly.)

Careful pre-planning of topics will provide many good language activities. Where does the person live? What is his family like? What are his other interests? Favorite foods? Not all "hams" are in the electronics fields, the author has talked with priests, florists, teachers and students--and learned about German law enforcement from an off-duty Bremen policeman.

Be prepared with an alternate activity, however. You never know when the electricity will go off in a suburb of Lyons or when the telephone will ring in Bogotá.

3. Real communication via low powered radio can be a big motivator. Many a quiet student has become a chatterbox when connected to a live telephone. The current CB faucet may well do the same, providing a media and stimulation for the exchange of information between two points in the school.

With only the foreign language permitted, some students would be delighted to find and use the target language equivalent of "ham" or "CB" jargon. The old unit on Producing a Radio Show comes alive when the radio really works and talks back to you. Normally reticent adults undergo a noticable personality change--Mr. Milktoast becomes "Rampart Lion" and Mrs. Smertz next door is the super seductive
"Red Hot Mama". Thank what kids can do.

Hola, "Flecha de Plata"

¿Quién es?

Soy "al Gaitero" y...

...Pues, sentena y tres. Cambio

Hasta luego amigo, setanta y tres.

Radio transmissions must be in real languages (Esperanto permitted) and are not limited to English. Transmissions via CB over any great distance is prohibited by law and the law power involved. Amateur radio is the way to go for international communication but most of our classrooms are within a mile or two of a native speaker. Just be sure they are briefed on the topic and language level of your students.
Problems in speech transmission and reception make language comprehension of radio broadcasts one of the real differentiators between skilled and unskilled listeners. During a recent workshop to develop new competency statements for Pennsylvania Foreign Language teachers, Tom Bruni of Allentown, only half in jest, suggested "Let's call them on the phone. If they can understand the second language then they're competent."

The bandwidth of radio transmissions is often reduced artificially at transmission to permit concentration of transmitting power. Voice transmission usually requires broadcast of frequencies to 10,000 Hz (cycles per second). Because of the redundancies known to native speakers, voice communications by radio and telephone are often restricted to 4000 Hz. Radio amateurs and other point-to-point communicators only need 2500 Hz.

For the non-native speaker (read language learner) this presents some real problems:

"As a result of experimentation we find that the ability of beginning students to distinguish and repeat syllables decreases markedly in German and perceptibly in French as the frequency response of equipment is progressively reduced from 7300 cycles per second, to 5000 and 3000. (Buka, Freeman and Locke, "Language Learning and Frequency Response").

The difficulty is caused by the removal of information required to transmit certain consonant phonomena, typically /V,f,θ,z,s/.

Add to this the lack of a visual cortex and the fading and noise often inherent in radio transmission.
Listening to a shortwave broadcast can be somewhat difficult even in a familiar language—it really does "separate the boys from the men" in a foreign language.

Yet, it may be doing our students a favor to force them to strain a little as they listen. Without strain there is no work being done. A few years ago one of the unpublicized results of the Pennsylvania Foreign Language Research Project indicated that on French and German listening tests, students who used the Holt texts did significantly better than those who used the A-LM. I have always felt that this was due to the Holt listening tapes that purposefully recombined materials and introduced sound effects and background noise.

The voices of the real world are out there, in truth it is right here, all around all of us in minute electrical vibrations. The radio receiver is a window—open it up and let those real voices of real people reach through and touch the minds of your students.
Obtaining an Amateur License

To obtain a radio amateur license to operate radio telephone on the long-distance bands, the applicant must appear before the examiner of the Federal Communications Commission at one of a number of examining centers and do three things: (1) pay an application fee; (2) successfully send and receive plain English text in the International Morse Code at a speed of thirteen words per minute; and (3) pass a written test on radio theory and regulations. Let us look at each of these in turn. The fee is the easiest part—but remember that it is not refundable. You don't get your money back if you fail either the code or theory test. You forgo the fee as your price for trying.

The code test is a questionable and difficult hurdle for many aspiring radio operators. Neither is true. A code test for a long distance transmitting licensing is required by international law for amateurs in all nations. It has a very real and practical application even in this sophisticated age. Code is best for in "dire" emergency situations—it goes farther per watt, is easier to understand through static, and can be produced by a simple "jury rigged" radio.

Learning the code is admittedly difficult for some, time consuming for everyone. Fortunately, the Novice Class License permits a beginner to begin at a relatively low technical level and code speed. Speed and skill increase while actually "on the air."
<table>
<thead>
<tr>
<th>Class</th>
<th>Requirements</th>
<th>Privileges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novice</td>
<td>code 5wpm, simple theory</td>
<td>code operation, sw bands</td>
</tr>
<tr>
<td>Technician</td>
<td>code 5wpm, general theory</td>
<td>code &amp; voice, VHF bands</td>
</tr>
<tr>
<td>General</td>
<td>code 13wpm, general theory</td>
<td>code &amp; voice, limited sw</td>
</tr>
<tr>
<td>Advanced</td>
<td>code 13wpm, advanced theory</td>
<td>code &amp; voice, many sw</td>
</tr>
<tr>
<td>Extra</td>
<td>code 20wpm, advanced theory</td>
<td>extra code frequencies</td>
</tr>
</tbody>
</table>

The Novice examination has recently been passed by a 5-year old.

A typical "ham" station consisting of a sw Transmitter/receiver in the 200-300 watt class with a modest antenna is fully capable of world-wide communication, depending upon the patience, skill, and times of operation.

*For information or help contact the American Radio Relay League, 225 W. Main St., Newington, Conn. for the name of a "ham" club in your area. Classes are offered by clubs, schools, and individuals throughout the year.

Check local Boy Scout Headquarters for the names of Radio Merit Badge Counselors. They will be almost always "hams" dedicated to helping interested beginners to obtain a license.

"Hams" will also help you get on the air, often by helping beginners to locate and set up less expensive equipment. You may even be allowed to operate their stations until yours gets established.