This article discusses universal advantages and disadvantages of various audio systems which may be used for language learning. In order to encourage teachers and administrators to experiment with simpler systems than the conventional language laboratory, a list of several low-cost alternatives is given. The list gives the producer's name, a description of the equipment and the price in British pounds. Two sets of criteria are suggested for evaluating the utility and effectiveness of any audiovisual media within a given teaching situation: (1) operational criteria - including initial cost, cost of maintenance, and availability of software and of qualified personnel; and (2) pedagogic criteria - e.g., the validity of claims for a student responding; the effectiveness of monitoring large groups; the case for individual recording; and the emphasis on isolated individual practice of the systematic, paradigmatic aspects of language and neglect of its situational, communicative context and functions. (TL)
A SUB-TITLE to this article could be 'low-cost alternatives to the conventional language laboratory'. It does not look at the mainstream evolution of the language laboratory into its streamlined, press-button compact format with audio-visual student positions, including video monitors, automatic slide and filmstrip-projection facilities etc. Also, there are, doubtless, many other individual, home-made and possibly cheaper versions of the alternative systems mentioned below. For teachers and administrators who have been conditioned exclusively language-laboratory perspective on language-learning audio-systems, an insight into simpler substitutes may encourage experimentation.

It should be remembered that the comparative costs of the audio-systems listed here offer one criterion only for choosing between options. The particular language-teaching capacity of any one combination of these items is not necessarily comparable with any other combination. Apart from economy, an audio-system that consists of modules, rather than a fixed system, implies a particular approach to language-teaching, to learner strategies, to classroom organisation, and to materials format and the sort of language behaviour which they allow. It is still feasible to recommend the conventional language laboratory in a situation where there is a continuing tradition of teacher-centred class-room practice, where teachers are still being trained in audio-lingual, structuralist principles, where large-group instruction is the norm. However, so many language-laboratory installations degenerate to a sub-performance level because of inadequate maintenance and operational technical expertise. This has been particularly true in developing countries where a language laboratory, installed by aid donors, may languish in exotic isolation because there is no technical or educational infrastructure to sustain it.

It is arguable that introducing a cassette system of low-cost and therefore expendable units which can be replaced locally by any similar model from the many cassette recorders marketed globally is a more effective means of establishing a progressive multi-media-instructional system than of establishing an expensive, elitist and technically demanding system which is not generalisable to a wider educational context. Cassette recorders are globally familiar items, as are transistor radios. Their wider use in education is far more possible, given the pedagogic inspiration, than that of the conventional language laboratory. This is not to deny the particular appropriateness of the language laboratory, for instance at university level, with mature students and adequate financial and material resources to maintain the laboratory in effective use. The distinction between two sets of criteria in evaluating the language laboratory, or any audio-visual media, is apparent:

a. Operational criteria - eg initial cost, cost of maintenance, availability of software and of qualified personnel, etc.

b. Pedagogic - eg the validity of claims for a-a student responding; the effectiveness of monitoring large groups; the case for individual a-c recording; the emphasis on isolated individual practice of the systematic, paradigmatic aspects of language and neglect of its situational, communicative context and functions.

Irrespective of ongoing criticism of the conventional language laboratory, and its defence, what does seem to be beyond dispute is a general recognition of the primacy of oral skills, and the role of audio-materials in developing them. The simplest audio-system for individual listening consists of an audio-loop which distributes a programme source to student headphones which
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Irrespective of ongoing criticism of the conventional language laboratory, and its defence, what does seem to be beyond dispute is a general recognition of the primacy of oral skills, and the role of audio-materials in developing them. The simplest audio-system for individual listening consists of an audio-loop which distributes a programme source to student headphones which
may be audio-active for student-repeat or simply audio. The use of cordless wireless headphones eliminates cords and facilitates the installation of listening areas of different size within one room.

Prices:

Audio loop £20.00

Headphones:
- single ear piece £1.00
- cordless padded £7.00
- with cord, padded £5.50
- a-a with boom
- microphone approx £14.00

To individualise an audio-system, cassette tape players offer the cheapest student units. The cheapest of these players are battery-powered and would require a separate mains unit for connection to mains power.

Cassette players:

a. Hanimex HCP1500 battery with built-in-main adaptor. Educational price (ep) £12.00
b. Rank Aldis 146 battery (requires mains uhit) Ep £19.50

Without considering yet the provision of a student a-c record facility, one problem of using only cassette players is that of pre-recording tapes. If a set of cassette players can be fed by a centralised cassette-copier, they are a highly economic proposition. If the teacher is dependent on his own resources in recording and copying cassette tapes, it would be better to supply cassette recorders:

a. Philips N2221 player recorder, battery/mains. Ep £21.00
b. Philips N330 2P battery/recorder. Ep £16.21
c. Philips N2203 battery recorder. Ep £25.63
d. Philips 222p mains/battery recorder. Ep £30.00

Small group listening to pre-recorded programmes from any one cassette player is possible with the use of audio-distribution-units:

a. E J Arnold, Model 753: 6 headsets with volume control £6.50
b. Telex 527: build-on boxes for two headsets with volume control £4.60
c. S G Brown Primary Audio Set: 6 headsets £11.65

Simple stethoscope-type headsets are commonly used with such audio-links. Connecting a master programme source to slave-recorders through a distribution box would allow multiple copying. It is obvious that this could not parallel the console-controlled ease of multiple copying in a language laboratory. A key factor in facilitating the optimum use of any instructional media in schools is the development of centralised resource service units where operations like multiple copying and master-recording can be carried out.
So far, I have presented hardware options for group and individualised listening facilities. The recorders listed above do not allow a-c student recording in response to a master-track programme which the student cannot erase. Before looking at cassette recorders with this a-c capacity, a key attribute of the language laboratory should not be overlooked - monitoring.

Teacher-monitored a-a student performance is offered by:

a. ESL Bristol Minilab. This comprises a teachers' console which enables individual communication with 10 students. The minilab can be connected to any programme input. Complete with a-a headsets and extension leads it costs £335.00. Separate consoles, at £135.00, allow the monitoring of additional groups of 10 students.

b. Flexilab, a slightly more sophisticated version of Minilab, which is also produced by ESL Bristol. The console can distribute two programmes to groups of 8 students. Additional console units increase its capacity by 8. The student headsets are connected to student positions consisting of a socket with volume control, which need to be set around the walls or on desks. The complete unit for 8 students costs £858.00.

c. Another unit which allows monitoring and which is akin in mobility to the Minilab is the Tandberg Group Trainer 15GT2. This is a tape-recorder with an attached console that has a capacity for 12 students. The attachment of another recorder allows successive student recording for evaluation purposes. At £209.00, excluding headsets, it compares favourably with the Minilab in terms of portability for small group work. The Minilab, on the other hand, can be connected to any programme source and can be more economically added to for bigger groups.

Apart from language-learning-method issues, the mobility of instructional resources is an issue that affects the utilisation of learning space and in particular the need for multi-purpose facilities which allow a range of learning activities. The alignment of conventional language laboratory booths along the walls goes a long way towards achieving this, as does a mobile Minilab on a trolley. Flexilab appears to be less flexible and more costly with regard to total mobility, although its minimal student positions do eliminate trailing cords, a factor which suits the Minilab more to groups of 10 or so.

From simple listening systems and monitored a-a systems to a-c student recording is a big step, technologically and financially. The a-c mode accounts for over half the price of a conventional language-laboratory. Of the £5,787.00 quoted for a 20-booth Connexans MK6 laboratory, £3,000 is taken by student recorders. The value of a-c practice as a means of refining pronunciation through comparison and contrast seems indisputable. However, the artificiality of many drills and exercises has drawn criticism that the a-c mode cannot adequately develop communication skills. Time and skill is required to prepare imaginative material which does creatively involve the student.

The following cassette recorders are designed for a-c language practice. That is, the student can record and erase on one track without erasing the master-track. A built-in adaptor switch is required to allow recording on the master-track in the normal mode.
a. Aveley Cybervox
   i. Student model (student-track recording only) £95.00
   ii. Teachers model (Master-track recording) £110.00
b. Philips LCH1015G (ESL Bristol): £85.00, including headset.
c. ESL Bristol Language study recorder LCH 1015: £79.00 including headset.
d. AIWA TM405 £74.00, with a variable speed control.

There is a fuller version of Flexilab which uses cassette student position to achieve full a-a-c language laboratory facilities. The master programme can be recorded onto student recorders during a monitored a-a practice phase. The teacher can monitor student-recording in the a-c mode with the proviso that the student-recorder should be paused during individual correction or the teacher's voice would be recorded on the student's tape. That the teacher does not have control over the student-recorders is significant only in that it requires students to operate their own recorders to record from the master programme. Flexilab most closely equals the conventional language laboratory. A unit of 16 student positions costs £2,585.00; a unit of 8 positions costs £1,580.00.

Apart from its modular nature, which allows adjustments in response to class size and room capacity, the simplicity and mobility of its components enable it to be stored and connected when necessary to fixed socket installations. The cassette recorders can be stored when not in use for language learning or applied to other study purposes.

A completely portable version of Flexilab, using cable connections from console to student positions has potential value for peripatetic teachers or teacher-trainers who service several institutions. The development of in-service language courses and on-site training in English for occupational purposes also offers scope for a compact, modular and portable language laboratory.

A more economical version of Flexilab, but suited more to groups of 10, can be combined from an ESL Minilab and a set of Philips LCH1015G a-c recorders. As with Flexilab, a master-tape can be bulk-copied through the console onto student recorders. With both Flexilab and Minilab systems a magnetic tape eraser would save much time in cleaning tapes for re-use (cost £10.00). Although students would be seated around a Minilab for a-a monitored practice, they can disperse for a-c recording.

In a conventional language laboratory the facilities of any student position in use are only partially exploited in any one mode. Using a set of cassette a-c recorders and a Mini or Flexi laboratory listening system, two groups of students could be being both sets of equipment simultaneously, in the same or in different rooms, in different phases of aural-oral practice. Organising equipment for variable cyclical work in this manner would allow the teacher to concentrate systematically on smaller numbers of students at a time and to retain and recycle a student through a phase which he has not mastered. This can also be done in the conventional language laboratory, where groups can be subdivided into different practice activities. Flexi or Mini laboratory alternatives have the advantage of economy. A comparison of cost per student position reveals:

a. Conventional language laboratory (eg Connevans) £250.00
b. Flexilab with a-c recorders £154.00
c. Minilab with a-c recorders £110.00

Apart from Flexilab and Minilab, the equipment listed in this article does not necessarily represent an exhaustive and evaluative selection of what is available. For convenience I have taken Philips products as a base-line in international cost-quality terms upon which it is possible to align and compare other models and makes.