IMAC: A Storage and Retrieval System for Language Resource Centers

Language resource centers are encountering a growing problem in the identification, storage, and retrieval of materials as a result of the increasing numbers and varieties of software available. Library classification systems and instructor/course identification prove inadequate where there are multiple holdings per instructor or course.

The Index of Media Access Codes (IMAC) is a simple, expandable system developed for use in language resource centers. It assigns each holding a distinct code number, provides a quick reference guide to holdings, and helps maintain an up-to-date inventory. This article presents IMAC and its applications.

Background

The identification, storage, and retrieval of materials at language resource centers is becoming a serious problem as computer software, video cassettes, video disks, satellite reception, and other media are increasingly used to enrich, individualize, and contextualize foreign and second language learning. Identification using Dewey Decimal or Library of Congress notations is unsatisfactory because their classifications are too broad. Identification by language, course number, and/or instructor becomes inadequate when multiple materials and media are available for each course. Clearly, there is a need for a simple, flexible, standardized classification system that is:

1) Easily understood, so that staff and Center users can learn it quickly;

2) Expandable, so that additional materials can be entered into the system;

3) Concise, so that a few symbols indicate all pertinent information; and

4) Informative, so that language, course, content and media are readily evident.

IMAC at University of Florida's Language Learning Center

In response to this need, I developed the Index of Media Access Code (IMAC) for use at the University of Florida's Language Learning Center. The Index consists of a language designator, the course number, an instructional designator, and a media designator. All current designators are listed below. Each list of designators is expandable, allowing for the creation of new designators as the need arises.

Language Designators

Prefix	Language	Prefix	Language
AR	Arabic	LN	Linguistics
CH	Chinese	JP	Japanese
DU	Dutch	PH	Phonetics
EN	English	PL	Polish
ES	English as a Second Language	PR	Portuguese
		RS	Russian
FR	French	SH	Shona
GK	Greek	SP	Spanish
GR	German	SV	Swedish
HB	Hebrew	SW	Swahili
HC	Haitian Creole	WE	Welch
HU	Hausa	YO	Yoruba
IT	Italian		

Instructional Designators

100 - Language Learning

101 - Complete course
102 - Pronunciation Drills
103 - Textbook exercises
104 - Laboratory exercises
105 - Dialogues
106 - Vocabulary
107 - Dictation
108 - Dialects
109 - Tutorial
110 - Drill/review
111 - Grammar
112 - Simulation
113 - Game
114 - Test
115 - Listening Comprehension
116 - Reading

200 - Culture

201 - Complete Course
202 - Customs
203 - Songs/music
204 - Geography
205 - Art/architecture
206 - Documentary
207 - News
208 - Transmitted play/drama
209 - Stories, Folklore
210 - Tutorial
211 - Simulation
212 - Game

300 - Literature

301 - Complete Course
302 - Plays/dramas
303 - Poetry
304 - Prose
305 - Criticism
306 - Interview of writer
306 - Movies

400 - Supplementary

401 - General Reference
402 - Dictionary
403 - History
404 - Current Affairs
405 - Social Issues
406 - Science & Technology
407 - Humor
408 - Realia

Media Designators

b - book, handout
c - computer software
d - video disk
f - filmstrip
l - disk record
r - reel-to-reel tape
s - slide
t - cassette tape
u - U-matic
v - video cassette

The IMAC Identification Process

Each holding receives a unique IMAC number based on these designators. The following examples illustrate how the four components combine:

SP4780 - Spanish 4780
.108t   Dialects, cassette tape

RS1121 - Russian 1121
.106f   Vocabulary practice, filmstrip

SV4506 - Swedish 4506
.403d   Scientific/technical, video disk

The first line of the IMAC number indicates the language and course number. The three-digit number in the second line is the content designator—a code number indicating the type of instructional material. The lower case letter at the end of the IMAC number designates the media form.

It is possible to assign unique IMAC numbers not only to each language series, but also to each part within a series. For example, the beginning French package—*Thème et Variations*—contains a textbook, a tape program with 26 chapters and 4 pronunciation drills, and a laboratory workbook. The IMAC numbers for these materials are:

FR1120 - Textbook
.101b

FR1120 - Laboratory workbook
.104b

FR1120 - Audio cassettes for chapters
.101t

FR1120 - Audio cassettes, pronunciation
.102t

Since *Thème et Variations* is a complete course, the textbook and tape program receive the instructional designator "101." The instructional designator "102" indicates pronunciation exercises and "104" laboratory exercises. The lower case letter at the end of the IMAC number differentiates between books and audio cassette tapes.

Language materials available for general use receive a language designator but no course number. Thus, YO.114v is a video cassette appropriate for several Yoruba courses.

To avoid repetition of IMAC numbers, the first letter of the author, publisher, or title may be appended, as in the following:

FR1120 - French 1120, M. Brunot, *En*
.202c *Province*
Customs, computer software

FR1120R- French 1120, S. Reynaud, *Le*
.202c *Marché*
Customs, computer software

FR1120T- French 1120, *Trois étudiants*
.202c Customs, computer software

To differentiate among these French computer programs, the second entry has the author's last-name initial added to the first line of the IMAC number. In the third example, the first letter of the title appears after the course number.

Computerized Directory

All materials with their corresponding IMAC numbers are entered into the IBM-PC using PC-Write version 2.71. Each language has a separate file. The *Find* command allows the staff to ascertain that no two holdings have the same IMAC number. The computer directory also serves as an up-to-date inventory of all materials housed at the Language Learning Center. A hard copy of the IMAC Directory becomes a quick-reference guide to holdings for both Center users and staff.

The IMAC Directory is similar to a card catalogue. Each entry indicates the IMAC number, the language and course number, the course title, the instructional focus, and the length of videos and audio cassettes. The following are typical entries:

GR1120
.102t

German 1120
Beginning German 1
Pronunciation
Audio Cassette
Title: Sounds of German A
Sounds of German B
Length: 40 minutes
(duplication available upon request)
Text: Werner Haas & Gustave B. Mathieu. *Deutsch für Alle*, 2nd Edition NY: John Wiley & Sons, 1983.

SP2200
.209v

Spanish 2200
Intermediate Spanish
Culture, Folktales
Video cassette (VHS)
Title: Había Una Vez
Length: 60 minutes
Text: R. Abreu & M. Hernández. *Cuentos del ayer.* Gainesville, FL: University of Florida, 1987.

The IMAC number appears on the upper left-hand corner of each directory entry. The number is followed by the language and course number, the course title, and the instructional focus, e.g., pronunciation, reading, vocabulary. The subheading "Title" refers to the particular name of a holding within a series. "Tapes" lists the available audio or video cassettes. "Length" indicates the listening or viewing time for the entire audio or video cassette. Where tapes within a series vary in length, approximate time length is shown. When copyright permission for student duplication is available, it is printed in parentheses under "Length."

Storage

Storage of materials is based on IMAC numbers. As the first segment of IMAC numbers is the language indicator, materials are stored in alphabetical order by language. Within a language, each subsequent segment of the IMAC number is used in numerical/alphabetical order. The following German holdings are stored in this sequence:

GR.406b
GRL.406b
GR.407v
GR1110.101t
GR1120.102c
GR1120R.102c
GR1120S.102c
GR1120.103t
GR2200.104r

Storage sequence begins with the language designator, GR, in these examples. The second determiner is the course number. Nonexistent numbers precede numbers in numerical sequence. The third factor is the instructional designator (separated by a period). All IMAC numbers for a language course with the same instructional designator are stored together. When a capital letter indicating author or title follows the course number, these materials are alphabetized by this letter. Finally, IMAC numbers are alphabetized by the media designator, the lower-case letter at the end.

Conclusion

The problem of identifying, storing, and retrieving multiple holdings for language courses grows as educational applications of technology expand. IMAC at the University of Florida is proving to be a viable solution. It can easily expand as new technological advances emerge and as the number of language courses increases. By having IMAC on the computer, students and staff can quickly locate materials available at the Center and a running inventory of all materials can be maintained. Locating stored materials is also simplified by using IMAC numbers. As a result, new staff learn the storage system quickly. Other centers may adapt the system, adding and deleting designators to meet their own needs. **Flexibility is the key to IMAC.**

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