

# The Status of Education Libraries in Botanical Gardens throughout the World. (A Survey)

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## **Background and History**

The Stupp Teacher Resource Center where this research originated exists to provide teachers with information, resource materials, and training, and to serve the Missouri Botanical Garden staff and volunteers. Established in 1982, the Stupp Center is young when compared to the rest of the Garden, which was established by immigrant Englishman Hengy Shaw, in 1859. The Garden is the oldest in the United States, a major cultural institution, a designated historical landmark, and a center for horticulture, research and education.

For the past twenty years, the Missouri Botanical Garden has been led by noted scientist, Dr. Peter H. Raven. It is committed mainly to research on tropical ecosystems and their conservation. In a National Geographic article, editor Boyd Gibbons wrote. "Called to the front lines in the war to save the tropical rain forests, the Missouri Botanical Garden has grown beyond its four wall to become one of the world's leading research institutions of its kind. (August 1990,p.125)

The Missouri Botanical Garden responded to an initiative suggested nearly eleven years ago at a meeting of the American Association of Botanical Gardens and Arboreta, when future directions were discussed. One presentor, Roy L. Taylor, called for botanical gardens to "define and distinguish" their research and education roles. He cited that botanical gardens need to lead in the establishment of programs for overall ecosystem management. He saw them holding a unique position to assume responsibility for public education, for public school programs, for horticultural training, and for professional upgrading. The Stupp Teacher Resource Center, as part of the Education Division, identified its role in this mandate and prepared to support programs for public education and for schools, by assisting classroom teachers and providing materials for horticultural training and for professional upgrading.

As time went by, the Stupp Center came to be recognized as the provider of services to educators. More and more teachers sought the materials and services offered by this library and more and more visitors to the Garden sought help intending to establish similar facilities. The Stupp Center recognized that it represented a level of growth perhaps not yet experienced at other institutions and that it met successfully the needs of community teachers. The question arose as to whether this experience could represent a trend.

Webster's New Twentieth Century Dictionary defines a trend as "The general tendency or course, as of events." The Stupp Center could identify a series of events in its own development as well as a discernable course of development.

They are:

1. Botanical gardens establish libraries to support their research.
2. Botanical gardens provide education programs at either degree or non-degree levels, which require materials expressly used for education and teaching. A special collection for education develops.
3. The education function grows to the extent that it requires new, specifically designed and designated facilities. When the education arm of the botanical garden moves to those facilities, the education special collection moves too, forming the core collection of a new education special library.
4. The education collection progresses through various stages. At first, it is likely to be small, operated on a part-time basis by volunteer or education staff.
5. If it connects with a group of users who recognize its ability to enhance classroom instruction by providing information and materials, demand will necessitate full-time hours and the skills of a professional librarian.
6. If the collection and services of the library fit with an increasing environmental need, the success of the library is guaranteed.

These observations formed the basis of the research which was conducted by the Stupp Center between January 15 and February 15, 1991. A review of the literature revealed that no previous research had been conducted in this area.

The biological imperative faced by the world and by botanical gardens provided impetus to conduct this research.

The hypothesis formed for this study was that a specific education library, the Stupp Teacher Resource Center, is not unique. It represents a current trend found amongst the botanical gardens and arboreta throughout the world. Therefore, the intention was to measure the presence of education libraries in botanical gardens on the national and international scene. It also compares the data collected with the standards set by the Stupp Center. Attempting a measurement on a global scale may seem ambitious to anyone not familiar with botanical gardens. However, botany is one of the most "global" of the sciences.

A botanist is customarily associated with a given institution, but conducts most of his or her work in the field, at locations distant from the given institution. The Missouri Botanical Garden presents an outstanding example. It employs a large staff of curators [43] who are specialists in a number of plant families. Some of them reside full-time in St. Louis, but many of them reside in countries where the work is centered, returning to St. Louis for as little as a month or two, or as much as six months to a year, travelling to and fro on a routine basis.

Additionally there are research associates who live in various parts of the world, but who collaborate with this institution on projects which are mutually beneficial. The associates live and/or work in such places as Trinidad, France, Chile, the Sarengeti, Australia, Costa Rica, Argentina, Madagascar, India, China, Zaire, Honduras and South Africa.

Currently the Missouri Botanical Garden sponsors research projects in Africa at Gabon, Zaire, Central African Republic, the Congo, Ghana, Zimbabwe, the Ivory Coast, Malawi, Madagascar, Tanzania, and Zaire. Research centers in North America and in Missouri, and in Latin America at Costa Rica, Nicaragua, Panama, Argentina, Bolivia, Chile, Colombia, Ecuador, Paraguay, Peru, Venezuela. Further afield there is research in Taiwan and China.

Plants are collected in the field, where their respective plant families are known to grow. Specimens are transported to the Garden, where they are mounted and classified and stored with the 5.8 million specimens in the Herbarium.

## THE SURVEY

The survey packet was sent to directors of botanical gardens. It included a four-page survey form, which consisted of four sections, with a total of eighteen questions; two letters, one from the Stupp Teacher Resource Center and one from the University of Missouri-Columbia; a Stupp Center brochure; and a self-addressed envelope. The survey promised to be anonymous and to share results with participants.

Names of participants were selected randomly from the International Directory of Botanical Gardens IV, 4th ed. This is a voluntary list and contains only names submitted by individual gardens. It is neither exhaustive nor comprehensive, and having been published in 1969, somewhat out of date. It was decided to select one garden from each state in the United States and its territories, and one garden from each of the other countries listed. Of the one hundred and thirty names obtained, fifty-three were associated with the United States and eighty-seven from all six

continents. Missouri was not surveyed for obvious reasons.

As noted previously, the survey packet was posted on January 16, 1991. Five were returned the next day due to problems with addresses. Starting on January 24, 1991, actual responses began to arrive. The first came from within the United States. On February 4, 1991, the international responses began to arrive. Some came from Europe and Asia first, with those from Australia, Africa, South America and the Middle East, taking longer. Two island nations at opposite ends of the globe, Iceland and Mauritius, responded. The last of the surveys arrived in April 1991.

What, then, was learned from this survey? Nearly fifty per cent of the institutions were interested enough in the topic to return the survey form. Furthermore, since answers came from all six continents and from two island nations, it can be concluded that respondents recognized the global issues at stake and were interested in education or both.

The very first question, in Section One, asked respondents to state their names and addresses.

The first question in Section Two asked if botanical gardens had education departments.

### Response to Question One Section Two

Yes	35
No	19
Neither Yes nor No	4

The second question in Section Two sought to determine how these education departments were staffed.

### Response to Question Two Section Two

Full time staff only	0
Part-time staff only	11
Both full-time and part-time	14

The third question attempted to establish the priorities which the education departments set for their programs.

### Response to Question Three Section Two

#### Programs Ranked in Order of Importance

	Most Important	1	2	3	4	5	6	7	8	9	Least
Doctoral	3	1	1	-	-	-	-	1	5		
Master's	2	2	-	1	-	-	2	-	5		
Bachelor's	1	1	3	-	-	1	-	-	4		
Secondary	5	4	5	4	6	-	-	1	1		
Primary	12	5	1	3	2	-	-	-	-		
Adult	7	8	2	3	-	1	-	-	-		
Family	3	2	4	4	2	2	-	1	1		

This third question established that while these education departments engage in programs at different levels, the greatest number regarded education for primary school children as their top priority, with programs for adults rating second. Programs for secondary students came third, followed by programs for



teacher training. Programs for the doctoral level and programs for the family tied. Those of the master's level came next, followed by the bachelor's degree. Two respondents reported "diploma courses" and "three year courses" which are options found more commonly outside the United States.

Section Three, which was the core of the questionnaire, posed queries to measure the education library in terms of its existence, its age, its staff, its formats, its equipment, its promotions, its funding, its budget, its circulation and its number of users.

It is important, at this juncture, to make a distinction which many of the

respondents made. They reported libraries which served the purpose of education, but which were not special education libraries with the specific role of serving mainly educators.

#### Response to Question One Section Three

Does the education department have a library?

Yes 29

No 8

No response 11

Twenty-nine responded that they had education libraries, while eight responded that they did not have education libraries. Eleven offered no response whatsoever. The nine responses which offered variations, included comments such as "part of arboretum library," "has education section," "not separate," "museum central library," or "part of main library."

The second question attempted to measure the age of these libraries.

#### Response to Question Two Section Three

One year 1

Two years 0

Three to five years 9

Five to ten years 2

Ten + years 29

No response 11

Since twenty-nine reported their libraries were more than ten years old, it seems likely that education libraries are not a new phenomenon, and probably were established at a time when funding was more readily available. The appearance of newer libraries indicate that facilities of this nature are still being established. One response stated that the institution had no education library, but did have an education department.

The next question asked about the groups of people to whom materials circulate.

#### Response to Question Three Section Three

Botanical Garden Staff 30

Botanical Garden Education Staff 29

Botanical Garden Volunteers 17

Students 7

Anyone 9

Other 16

The largest number of materials circulate to garden staffs, to garden education staff members, and to volunteers. Several respondents reported limiting use of materials to reference only. None of the reporting groups parallels exactly the Stupp Teacher Resource Center, which circulates materials to employed community teachers, to Garden staff, and to volunteers. It welcomes people of all ages to use its materials for reference, by appointment. Inter-library loan is not available to Stupp users, but one-time borrowing privileges are offered through the Infopass program by virtue of the Stupp Center's membership in the St. Louis Regional Library Network.

Some of the variations of circulation policies included lending to outsiders working on projects at a specific garden, filling requests received through municipal library systems, inter-library loan, circulation to members but allowing "reference only" for outsiders, lending to botanical and horticultural researchers, lending to archivists, to research students, to professional teachers, to university research centers, and to the Ministry of Agriculture.

The next question measured the presence and amount of various formats in these education libraries. Respondents were asked to describe their formats according to the quantitative words, "ample," "moderate," "scarce," and "none". Webster's New Twentieth Century Dictionary defines ample as "large or extended," as "fully sufficient," and as "adequate or enough." All three of these elements in the definition are meant to specify the amounts of audio-visual materials present in some education libraries.

#### Response to Question Four Section Three

	MODERATE	SCARCE	NONE
Audiocassette	0	2	12
Books	28	5	1
Botanical Models	0	1	5
Curricula	2	7	10
Films	6	10	4
Filmstrips	1	1	8
Hands-on Kits	2	2	5
Journals	18	10	4
Sound Recordings	0	2	5
Archival Material	1		
Catalogues	1		
Photographs	1		
Slides	1		
Videocassettes	2	4	1

Most of the libraries reported that their collections contained mostly books and journals. Twenty-eight reported books as ample, 18 reported journals as ample. Two reported hands-on kits present in ample quantities and 2 reported ample amounts of filmstrips. The formats which were present in scarce numbers, or not at all, were audiocassettes, curricula, films, filmstrips, hands-

on kits, slides, sound recordings, and botanical models. As expected, books and journals form the basis of education library collections, with other formats present, but not in proportions equal to books and journals.

The next query determined the type of equipment to be found in these libraries.

#### Response to Question Five Section Three

Apple Family Computers	4
IBM/Clone Computers	13
Film projector	13
Filmstrip projector	10
Micrographics equipment	10
Photocopy machine	23
Television set	4
Videocassette recorder	13
CD-ROM work station	1
Slide projector	7
Audiocassette player	1
Screen	1
Overhead projector	1
Microfiche	1
Slides	1

The responses to this query reflect the presence of the usual equipment associated with teaching and instruction, all of which are predictable. Whilst 13 reported IBM/Clone computers and one reported a CD-ROM work station, the data does not seem to support a high presence of automation in education libraries. It is interesting that more libraries had photocopy machines than computers.

Question six sought to determine methods used by education libraries to promote themselves.

#### Responses to Question Six Section Three

Brochures	12
Circulars	6
In-house publications	8
Newspaper advertisements	1
Promotional visits	4
Word-of-mouth recommendations	16
Visitor's requests	1
Plant societies	1
Tours	1
State Library System	1
Public Libraries	1
Colleges	1
Circulars to staff	1

These data suggest that education libraries rely upon word-of-mouth recommendations, ostensibly from satisfied patrons, to promote themselves. They further suggest that brochures, in-house publications, and circulars are three of the most commonly used methods of promotion.

The next two questions, seven and eight, asked for details about funding and budgets. Both were optional questions.

#### Responses to Question Six Section Three

Funded from operating budget	27
Funded from external grant money	4
Government funds	1
School department	1
Donated books	1
National agency	1
Members' budget	1
Support group budget	1
Friends' budget	1

While the greatest number of education libraries are funded from their institution's budgets, some are funded by grant money. The Stupp Teacher Resource Center has been funded almost entirely by grant money, since its inception in 1982, and is, therefore, a departure from what is shown here. None reported charging for services.

#### Responses to Question Eight Section Three

Annual budget less than \$1000 per annum	11
Annual budget less than \$5000 per annum	9
Annual budget less than \$10,000 per annum	5
Annual budget less than \$20,000 per annum	1
Annual budget less than \$30,000 per annum	3

The overall impression from these responses is that education libraries are poorly funded and must function on a very low budget.

The next question sought to determine the qualification of the persons running education libraries.

#### Responses to Question Nine Section Three

Number of professional librarians	25
Number of non-professional librarians	14
Number of clerical staff	10
Number of volunteers	96
Education staff	3

Even though a large number of education libraries operate on a low budget, many of them reported that their libraries were run by professional librarians. Thirty respondents reported 25 professionals in their education libraries, although five of those professionals were volunteers or worked in half-time positions. Twelve respondents reported 14 non-professional librarians. "Non-professional" librarians are those persons who work in libraries and who are perceived by the public to be librarians, although they lack professional qualifications. Two of the non-professionals reported were actually horticultural staff. Eighteen respondents listed 96 volunteers working in their respective libraries. Other workers could be education staff members or the education co-ordinator.



The picture emerges of education libraries being staffed by professionally qualified librarians, but also relying, to a great extent, upon the services of volunteers. Again, this is a reflection of a limited operating budget.

Most of those surveyed do not circulate materials at all. This was the information sought in question ten.

#### Responses to Question Ten Section Three

No items circulated	20
100 or less items circulated	5
500 or less items circulated	3
1000 or less items circulated	2
5000 or less items circulated	1
Over 5000 items circulated	1

While a handful of education libraries [4] circulate more than a thousand books per year, the vast majority of those responding to the survey [28] reported circulation under 500 items per year, or none at all.

Section Four consisted of three open-ended questions which asked respondents to comment further upon the work at their respective gardens, comment upon the education libraries "past, present or future," and to simply comment upon anything whatsoever.

#### Responses to Question One Section Four

Question one answered	35
Question two answered	26
Question three answered	19

Many described more specifically how their education libraries fit into the work of their respective gardens. Many discussed the work of their gardens and expressed desire to channel their work into improving their environment. Some explained their relationships with universities. Some requested assistance. One expressed dismay over the reluctance of the host institution to organize educational programs at all. One shared the opinion that botanical gardens are the most poorly understood of the living museums and that they need to take a more aggressive public relations position. "We are, as a group, far too passive," one opined. Answers to this first question were forthcoming and informative. Another responded enthusiastically "Glad to see research into the practice of education in botanical gardens."

Several others took the opportunity to point out that their libraries did not coincide with the Stupp Teacher Resource Center model. They offered details to show how they differed. For example, among the respondents they were well-established university and research libraries which serve botanical gardens, rather than specialized education libraries.

While only nineteen people responded to the final question, number three, they did provide worthwhile information, similar to that in the preceeding question. Some mentioned plans for the future, some provided additional information about their current situations, and some took the opportunity to clarify how their

libraries served education. One pertinent comment, which paralleled the Missouri Botanical Garden experience, was the one which stated, "Our library initially began as a collection of personal books of the first director and was added to over the years by other donations and acquisitions of books and journals." Another shared the opinion that, "many gardens need to see themselves more as educators and less as collection managers."

It was reassuring to learn that so many respondents' answers did parallel the various stages of development of an education library, already experienced by the Stupp Teacher Resource Center, and that so many botanical gardens from all over the world were willing to share that information with the surveyor. This willingness enhances the widespread interest in education as a function of botanical gardens, and supports the notion that education departments need education libraries to support their work.

The survey acted as a catalyst in motivating botanical museum staff to consider the current and the future status of these libraries in their respective institutions. However, education libraries need strong support from management. They need adequate finance. They need encouragement. The education library is directly responsible for influencing change of attitude and behavior. When it provides teachers with materials and information to be used in the classroom, it is influencing the voters of tomorrow. When teachers and other users can depend upon this type of library to provide them with readily available information, they become avid supporters of the funding institution.