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MISSION FOCUSED COLLECTIONS:

REBIRTH OF THE "SEMINARBIBLIOTHEK" AS AN E-BOOK COLLECTION

Charlotte Erdmann, E. Stewart Saunders, Gretchen Stephens

INTRODUCTION

Background on seminar libraries

German universities built over the years highly specialized book collections for use by faculty and graduate students. The German term, "Seminarbibliothek," is often applied to these types of collections, although examples can be found in universities across Europe. The purpose of this paper is to examine a similar type of collection using e-books in veterinary science and to compare this collection to the standard subject classified e-book collections. Most collection development in college and university libraries focuses on academic subjects. The type of collection being described here focuses on a mission. A mission focused collection increases the use of library holdings and greatly benefits the stakeholders within the institution. This study looks at how such a collection might be formed and defined and what possible effects this might have on the use of collections of this type.

German universities as they emerged in the nineteenth century were not structured for liberal studies, as were the British universities. Rather they were geared to produce specialists. One might speculate that the lack of a liberally educated German elite contributed to some of the terrible events of the twentieth century. On the other hand, specialization was the driver behind Germany's supremacy in the sciences and in many areas of the humanities. Specialties were often structured around a "Seminar," a closed group of faculty and advanced students. The "Seminar" had become one of the principle methods of instruction for advanced studies. It was a unit within the university, but in some ways functioned almost independently of the university. Many developed their own libraries, "Seminarbibliotheken"; small working collections created by the faculty and focused on the specific goals and mission of that "Seminar." By 1893 the Prussian university libraries, (i.e. Berlin and Frankfurt) plus Leipzig, and Munich had 114 "Seminarbibliotheken."(Thompson, p. 61)

In September of 1887 Herbert Adams (Adams pp. 8 – 10) read a report at the annual meetings of the American Library Association about German seminar libraries and his experience of attending a seminar at the University of Heidelberg. In his description Adams uses the older term "seminary" for the modern term "seminar."

> Seminary libraries in Germany are usually the professor's own collection, reinforced by such drafts upon the University library as seminary students are allowed to make. … Sometimes special problems are given by the professor for student solution… …the student appears, fortified by books and documents borrowed from the university library, and prepared with his brief of points and citations, like a lawyer about to plead a case… Authorities are discussed; parallel sources of information are cited; old opinions are exploded; standard histories are riddled by criticism, and new views are established. This process of destruction and reconstruction requires considerable literary apparatus, and the professor's study table is usually covered with many evidences of the battle of books. The dead and wounded are, however, quickly cleared away when refreshments appear upon the scene.

Parallels between seminar collections and "problem-based learning"

The method of instruction described here has many parallels to what modern educators call "problem based learning." It requires an intensive use of library materials and the application of the information from these materials in the resolution of problems or issues. Adams goes on to say:

> While the private library of a professor continues to be a favorite place for seminary meetings in all German universities, it has been found expedient in some cases, where the seminary membership is large, to secure a special room at the university or near the university library. The increased demands on the latter, the delay and difficulty incident to the procuring books for seminary use from an inadequate supply, has led to the institution of small working collections for the special and exclusive benefit of a particular seminary.
>
> The library is managed upon principles of comity and general accommodation. .. each member has a key to the room and comes and goes when he pleases. … The room is accessible at all hours during the day and evening…

When American students returned from doing advance studies in Europe in the nineteenth century, they wanted a pedagogical system like the ones they had experienced in Germany. Both Johns Hopkins and the University of Chicago were founded without central libraries, but a series of independent departmental libraries. "The idea of a liberal arts education gave way to the notion of intensive specialized study in a well-defined field…" (Thompson p. 64). American librarians, on the other hand, were concerned about the exclusiveness and duplication of such a system as well as the lack of cross disciplinary use. Thompson points out that a book in the Veterinary Library at Iowa State College (circa 1942) had been used by a botanist, a

bacteriologist, a nutritional chemist, a geneticist, and several entomologists as well as by veterinarians. (Thompson, p. 54)

Evolution of "problem-based learning collections" at Purdue University's School of Veterinary Science

When problem based learning was introduced into the Purdue University School of Veterinary Medicine in the 1990's, there was a large increase in the use of the Veterinary Medical Library. Even though the collection of this library is not large by modern standards, students still found it difficult to navigate the collection to complete their assignments. This became especially true as the university wide on-line catalog did not at that time index or search titles at the chapter level. For some classes it became necessary to place needed materials in an open reserve area just so the students could identify relevant texts. The problem-based teaching found in the veterinary school continues into the clinics of the Veterinary Teaching Hospital. These clinics are in many ways a 21st century analog to the seminars of 19th century German universities. It would not be surprising, therefore, to see an emergence of highly specialized collections designed for their needs.

The College of Veterinary Medicine at Purdue University maintains both a Large Animal and a Small Animal Clinic within their Veterinary Teaching Hospital where "all creatures great and small" receive care. Here 4th year "senior" DVM students under supervision of faculty and clinicians receive practical experience in treating animals. While preparing case reports, students frequently need to consult core clinical texts relevant to the given animal/case treated. Over the years, the Veterinary Medical Librarian in consultation with the clinic faculty created a special collection of clinically related print books for their use. The collection was located in a room adjacent to the "bullpen" or operations area. Use by the clinical students and faculty was so intense that it became necessary to chain the books to tables. As e-book versions replaced print, this collection evolved into two Libguides of clinically related veterinary e-books to support those senior students engaged in initial diagnosis and treatment as well as in writing their case reports. Since clinical work can be 24/7, these online guides were a huge success as detailed later. This description parallels in many ways Adam's description of his 19th century "Seminarbibliothek" at the University of Heidelberg with its specialized collection, its location next to the research and study areas, and its 24/7 accessibility. As to refreshments, that depends on the students.

Research question

Do collections of this type portend yet another possibility for collection creation and collection use? If so, how would these collections differ from collections currently being formed? These are the questions posed by this research. At the conceptual level, collection strategies are

frequently classified as either librarian driven acquisitions or patron driven acquisitions. Approval plans and title by title selection would be librarian driven strategies; vendor packages are perhaps also librarian driven strategies. Because librarians traditionally have subject responsibilities, librarian driven strategies have a strong academic subject focus. Patron driven strategies include a number of different pricing and purchase threshold options. To better understand how a missioned focused collection would differ from collections created as librarian driven and patron driven collections, this study has deconstructed several years of use data from Elsevier's Science Direct collection of e-books. The Science Direct e-books which comprise the Veterinary Clinic Collection is a mission focused collection selected by the veterinary science librarian based on recommendations from the faculty. All of the other Science Direct e-books have been segmented into a number of sub-sets which represent collections with an academic subject focus. The logic of the analysis is to compare the mission focused collection to the collections with an academic subject focus.

LITERATURE REVIEW

The mission focused collection of clinically relevant books began as a print collection adjacent to the operations area of the Veterinary Hospital. The advent of electronic information sources and Libguides provided technologies which greatly expanded the possibilities for mission focused collections of this type. The use of these technologies does not, however, in itself create a mission focused collection. A mission focused collection requires a well defined user group engaged in a specific mission or the attainment of specific goals, and a collection of electronic resources critical to the attainment of those goals. The literature on electronic resources and Libguides point to how these technologies might be adapted to the creation of such collections. The two examples of Libguides given below are typical of the uses to be found in the literature; they have some of the characteristics of mission focused collections, but lack other ingredients.

Libguides, like the older pathfinders, have become a preferred venue for highlighting specific collections and targeting specific groups of users. As of August 2016 Springshare reported that 494,917 Libguides had been posted at 5,184 institutions (Sprintshare). Depending on the purposes for which they are designed, they have been both praised and criticized.

Libraries at the Charles Drew University of Medicine and Science have made aggressive use of Libguides to reach specific audiences. Along with the usual types of guides, CDU librarians created a library intranet or "internal information repository." Here they entered links to the most heavily used e-books in family medicine, infectious diseases, etc. These in turn evolved into Libguides connected to the library's home page. In a survey of students conducted by CDU

librarians, they found that students were confused by the large maze of information resources and appreciated the Libguides as “one-stop-shopping” for their specialties. The CDU library saw an increase in the use of electronic resources, but the authors give no indications as to whether the increase can be traced to the use of Libguides. Their major recommendation for “useful” Libguides is collaboration between librarians and stakeholders. (Ream, & Parker-Kelly, pp. 345-8). The example of the CDU Library Libguides is typical of many Libguides . They were created to facilitate access to the most heavily used e-books. They have some of the characteristics of a mission focused collection: the collection for each Libguide was built around a specialty and the e-books included had a history of high use. On the other hand, the user group was not well defined and there was no specific goal for which they were being used.

The field of veterinary medicine recognizes more than 40 specialties beyond the Doctor of Veterinary Medicine which require certification by examination. Librarians at four institutions have used Libguides as a vehicle to provide reading lists for veterinarians to use in preparing for the examinations. Each list is prepared by an expert and contains the titles of materials deemed necessary to pass a particular exam. Monographs on the list are linked to Worldcat holdings and articles are linked to PubMed. Veterinary librarians have used these lists as a tool for collection development. (L.M. Rey et al. p. 497) The user group for these Libguides are DVM’s preparing for specific examines in advanced specialties of veterinary medicine. The titles on each list are critical for meeting user goals. Having a well defined user group working toward a specific goal and depending on a list of library sources for meeting the goal, these Libguides meet an important requirement of mission focused collections. These Libguides are very useful, but it would be a stretch to call them a “collection.” Some of the PubMed links will lead the user to an actual text, but there are no e-book links for monographs.

Not all librarians are happy with the use of Libguides as a tool for helping young minds explore the richness of our intellectual heritage. Two librarians have stated that they lead to “intellectual and pedagogical poverty” (Giullian & Zitser p. 174). For them Libguides are nothing more than canned searches presenting “decontextualized lists of key (textual) resources,” and helping the student have three peer-reviewed articles and one book for a term paper. One cannot escape the question as to the purpose of a university degree. Does it provide a liberalizing expansion of knowledge about the world or does it provide professional certification? For centuries it has done both. In the era of digital information yet another question arises: how does one cope with a universe of information so large as to defy understanding? In this context Libguides provide a partial answer.

RESEARCH METHODOLOGY

The data for this study came from the usage reports of Elsevier's Science Direct e-book collection available online at the Purdue University Libraries. The e-books comprised those titles in the OPAC as of Jan 1, 2010 and those added to the collection between Jan 1, 2010 and December 31, 2011. The use data for these books covers the period Jan 1, 2010 to Dec 31, 2014. Thus, the maximum use data would be 5 years for those e-books in the collection on Jan 1, 2010; the minimum use data would be 3 years for those books not added until Dec 31, 2011. All other books would have use data between 3 years and 5 years. The research began with a database of 2,790 e-books. Because complete use data could not be verified for 95 of these titles, the actual study is based on 2,695 e-books.

Preparing the data for analysis

Elsevier use reports contain: a short title, ISBN, and monthly use data for each e-book. In order to have a greater insight into the data, it was deemed necessary to know the full title of the work, the author, the LC classification, the subject headings, the date the title was added to the Purdue OPAC, and the data of publication. This required creation of a link between the Elsevier short title and Purdue's OPAC bibliographic record. This task was achieved for most of the titles using the ISBN supplied by Elsevier; the remainder had to be matched using the Elsevier short title and the OPAC full title.

The next step was to normalize the use data. In order to establish a single measure of use, it was necessary to normalize the use based on the length of time each e-book had been available on the Purdue OPAC. The total use for an e-book is the sum of all the uses made of that e-book for the period of this study. The number of use days is the number of days between the create date for the OPAC record and Dec 31, 2014, the last day of use data. The total use of each e-book was divided by the number of days in the OPAC to give an average daily use. This figure was then multiplied by 365 to give average yearly use.

Subject analysis was approached from two different directions. The first step was to classify the e-books by the first two letters of the LC class. Since this is mainly a science collection, most of the books fell into such categories as QA, RC, TK, etc. There were some books from the social sciences, but very few from the humanities. The second step was to create a list of significant keywords for each book. This was done by pulling relevant terms from both the title and the primary LC subject heading found in field 650 of the Marc record. Non-essential terms such as

articles, prepositions, and terms used for text format such as textbook, manual, introduction, and proceedings were eliminated. Elimination of terms, however, required caution. The term "volume" could be a reference to the format of a text, or it could be a reference to a measure of fluids or gases. Simple descriptive terms like "large" and "small" are critical when referring to the diagnosis of an animal. Terms like these were left as possible important subject terms. While the elimination of non-essential terms is useful for better subject analysis, the authors are aware that elimination may also inadvertently skew the results of analysis. Any such bias in the analysis should be small, however, compared to the bigger picture. (footnote: Data manipulations and statistics were executed in Microsoft Excel and Access and in Python. Network graphs were executed in Gephi.)

RESULTS FROM DATA ANALYSIS

Results were obtained through a comparative analysis of the Veterinary Clinic Collection and a number of subject collections. The Veterinary Clinic Collection is defined as the 97 Science Direct e-books created for the students and faculty working in the Veterinary Teaching Hospital. The subject collections are defined as the collections of Science Direct e-books categorized by their two-letter LC class number and not part of the Veterinary Clinic Collection. Analysis proceeds by examining 1) a comparison of use across collections, 2) subject uniformity within collections, and 3) use within collections.

Use Across Collections

Results showing the use of e-books in the Veterinary Clinic Collection and in all subject collections with more than 20 e-books can be seen in Table 1 and Graph 1. The average yearly use for the 97 e-books in the Veterinary Clinic Collection is 291.88. This far exceeds the average use of e-books in any of the other collections. The second in rank is the collection of 74 e-books in the veterinary sciences collection (SF* classification) which were not part of the Veterinary Clinic Collection. Its average yearly use was 60.77. Third in rank is the chemistry collection with an average use of 25.05. Some subject collections also had a large number of never used e-books. Graph 1 shows the average use when the collections are ranked from largest to smallest. E-books in the Veterinary Clinic Collection had 4.8 times more average uses than e-books in the non-clinic (SF*) collection of veterinary science e-books, although e-books in both collections are in the SF classification. In contrast, e-books in the non-clinic veterinary science collection had 2.4 more average uses than e-books in the chemistry collection, the LC subject collection with the third highest average use. One cannot draw a clear conclusion from just one case, but these numbers suggest a significant impact on use from the creation of a special collection designed for clinic staff. What is the source of this heavy use? Yes, the clinics are in almost daily use; there will be a daily need for the information provided by the clinic collection. On the other hand, veterinary students and faculty not staffing the clinics will also be doing

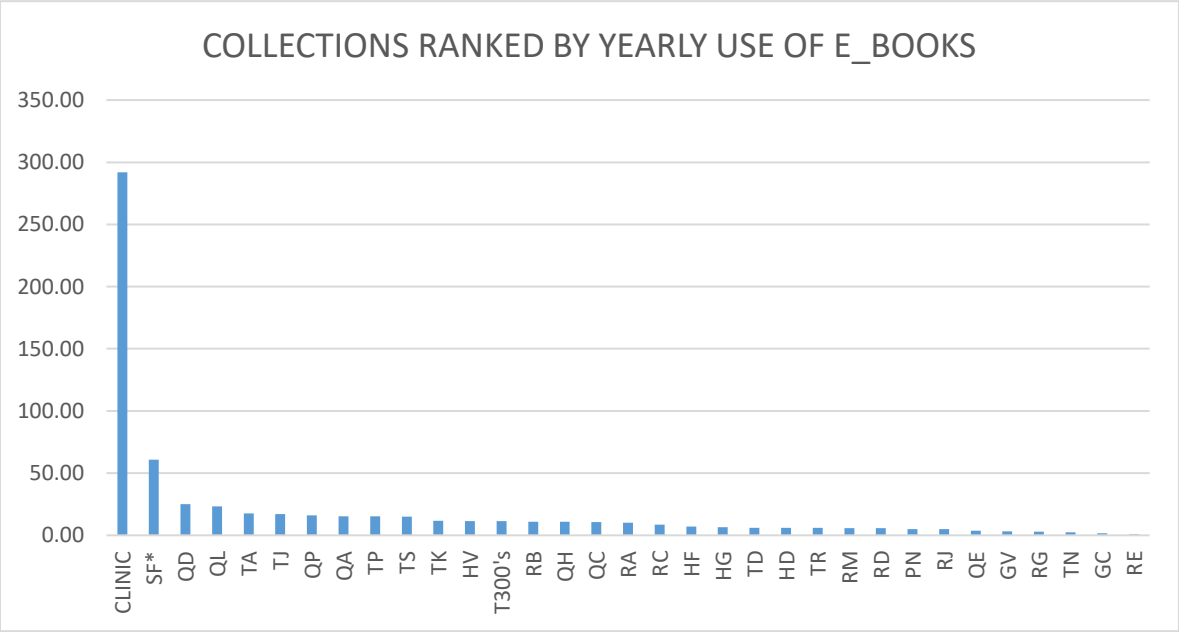
research projects and problem based assignments on a daily basis. But there is also the possibility that clinical work just requires a heavier use of manuals and texts than do other activities. The two Libguides forming the Veterinary Clinic Collection are accessed on both the library home page and on the Veterinary Teaching Hospital home page. In addition, students can open the Science Direct e-books immediately without the need for passwords. These conditions will obviously increase use. As to why the veterinary e-books not in the clinic collection had the second highest use of all the collections, one can only speculate. It may be that students and faculty in this discipline have higher information needs, or that the non-clinic collection has been more carefully selected to meet needs. Then again, it may be that the experiences of the clinic staff have taught them to be more cognizant about the possibilities of meeting information needs from the Library's e-book collections.

TABLE 1 USE STATISTICS FOR VETERINARY CLINIC AND SUBJECT COLLECTIONS

SUBJECT	LC CLASS	Number of E-Books	AVERAGE YEARLY USE FOR E_BOOKS IN LC CLASS	NUMBER OF E-BOOKS WITH ZERO USE	PERCENT OF E-BOOKS WITH ZERO USE	LOWEST YEARLY USE FOR E-BOOK IN THIS LC CLASS	HIGHEST YEARLY USE FOR E-BOOKS IN THIS LC CLASS
VETERINARY CLINIC COLLECTION		97	291.88	0	0.00%	27.57	2,493.08
Oceanography	GC	28	1.66	12	42.86%	0	19.55
Recreation	GV	21	3.12	6	28.57%	0	14.25
Industry	HD	55	6.05	5	9.09%	0	41.84
Commerce	HF	35	7.10	4	11.43%	0	49.16
Finance	HG	36	6.63	12	33.33%	0	29.28
Welfare & Criminology	HV	24	11.38	2	8.33%	0	30.12
General Literature	PN	25	5.10	6	24.00%	0	23.63
Mathematics	QA	160	15.35	20	12.50%	0	137.68
Physics	QC	79	10.62	21	26.58%	0	216.89
Chemistry	QD	58	25.05	6	10.34%	0	415.92
Geology	QE	90	3.67	26	28.89%	0	90.70
Natural History	QH	40	10.87	6	15.00%	0	54.70
Zoology	QL	33	23.18	0	0.00%	0.21	142.50
Physiology	QP	80	15.92	5	6.25%	0	211.24
General Medicine	RA	42	10.22	6	14.29%	0	123.29
Pathology	RB	27	10.94	4	14.81%	0	55.03
Internal Medicine	RC	290	8.61	50	17.24%	0	338.37

Surgery	RD	133	5.80	32	24.06%	0	61.15
Ophthalmology	RE	68	0.92	37	54.41%	0	8.45
Gynecology	RG	23	2.86	3	13.04%	0	14.92
Pediatrics	RJ	62	4.97	14	22.58%	0	71.82
Pharmacology	RM	82	5.84	23	28.05%	0	87.02
Veterinary Science (non-clinic titles)	SF*	74	60.77	1	1.37%	0	720.00
Mechanical Drawing	T300's	33	11.29	5	15.15%	0	44.05
Civil Engineering	TA	93	17.58	13	13.98%	0	401.44
Environmental Tech	TD	36	6.09	7	19.44%	0	25.82
Mechanical Engineering	TJ	40	16.99	1	2.50%	0	62.45
Electrical & Nuclear E.	TK	213	11.60	26	12.21%	0	85.09
Mining & Metallurgy	TN	77	2.39	26	33.77%	0	20.56
Chemical Technology	TP	71	15.35	2	2.82%	0	71.67
Photography	TR	107	5.90	18	16.82%	0	36.69
Manufactures	TS	26	14.92	2	7.69%	0	61.84

GRAPH 1



Subject Uniformity within Collections

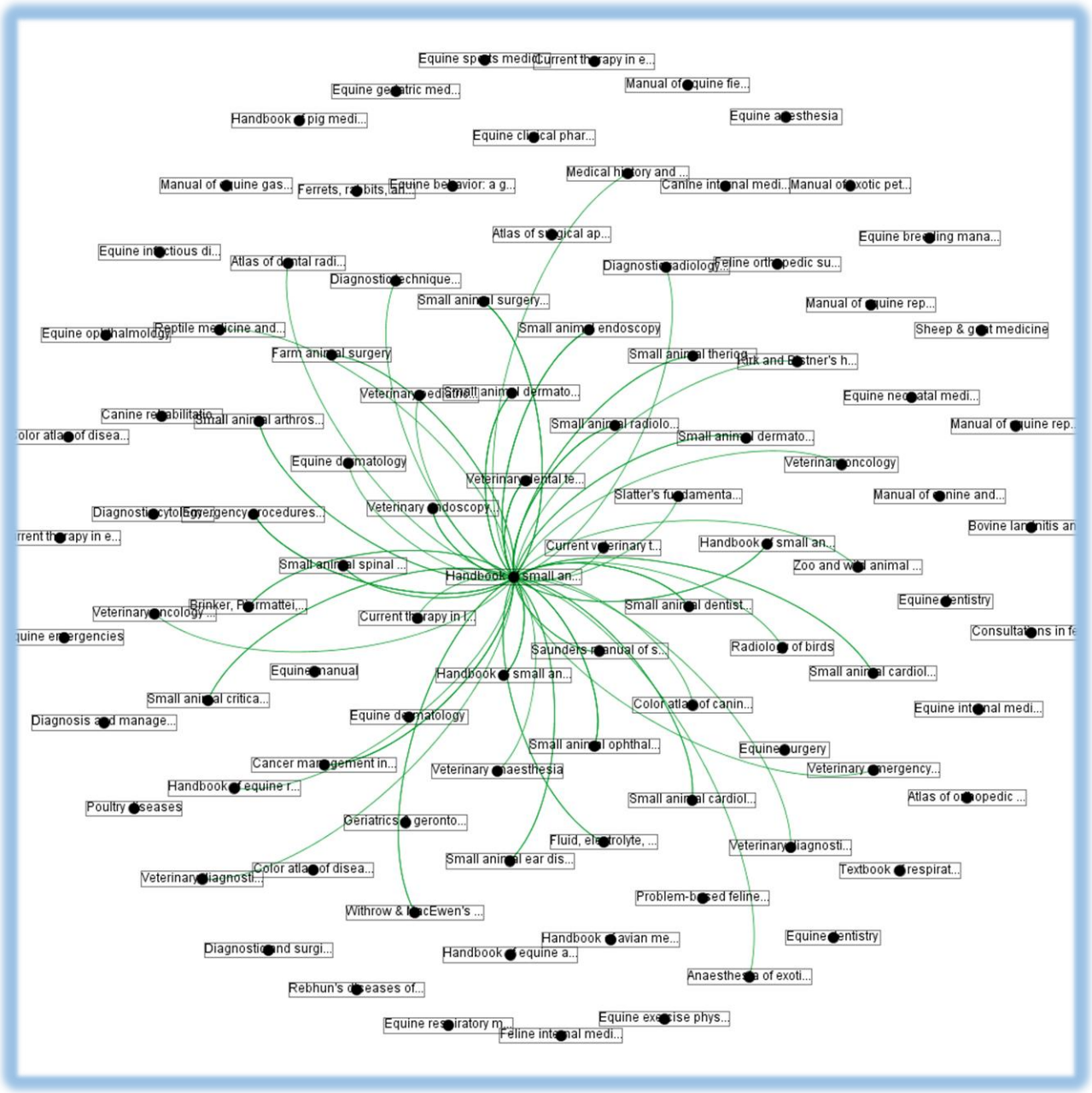
A collection created with a mission focus should have a stronger subject uniformity than collections selected for independent users with independent goals. Extraneous titles have no place in such a collection. To test this assumption network graphs for a number of collections were created, using keywords from each of the e-books as the network connectors. Statistics from these networks will give a measure of subject uniformity that is independent of any use statistics. Collections with high uniformity should have very dense graph structures compared to those with only a loose uniformity.

In a network graph of this type each e-book in the collection is represented as a node in the network. A line connecting one e-book to another e-book means that they share the same keyword. To illustrate this, Graph 2 shows all the e-books in the Veterinary Clinic Collection. Links between, The Handbook of **Small Animal Radiology** and **Ultrasound**: **Techniques** and **Differential Diagnoses**, and other e-books in the Veterinary Clinic Collection are indicated with curved lines. Links are based on the keywords in the title above (shown in bold) and two LC subject terms not in the title, **veterinary** and **radiography**. Thus there are three links between this book and the e-book, **Small Animal Radiology** and Ultrasonography, based on the three terms in bold for the latter. Notice that there is no link with "Ultrasonography" even though it is a cognate to the term, "Ultrasound" in the first title. Also the term "Radiology" is in the title of the first-book, and "radiography" is an LC subject term for that e-book. Both terms are maintained even though they mean essentially the same thing. That is because "radiography" could appear as an LC subject term in another book even if "Radiology" was not in the title. That way a link would still be made. (Note: We avoided using some of the technical graph terminology since it would require more explanation as to their meanings without adding any greater understanding to the analysis.)

In Graph 2, Handbook of Small Animal Radiology and Ultrasound: Techniques and Differential Diagnoses has the node in the center. Curved lines emanating from it go to all the e-books with which it shares keyword links. In the example of the two books above, there are three lines between them, but only one line shows in the graph since the graph cannot separate them. The Handbook links to 46 of the 97 e-books in the Veterinary Clinic Collection and there are a total of 84 keyword links. The e-books not linked to it are shown in the periphery.

GRAPH 2

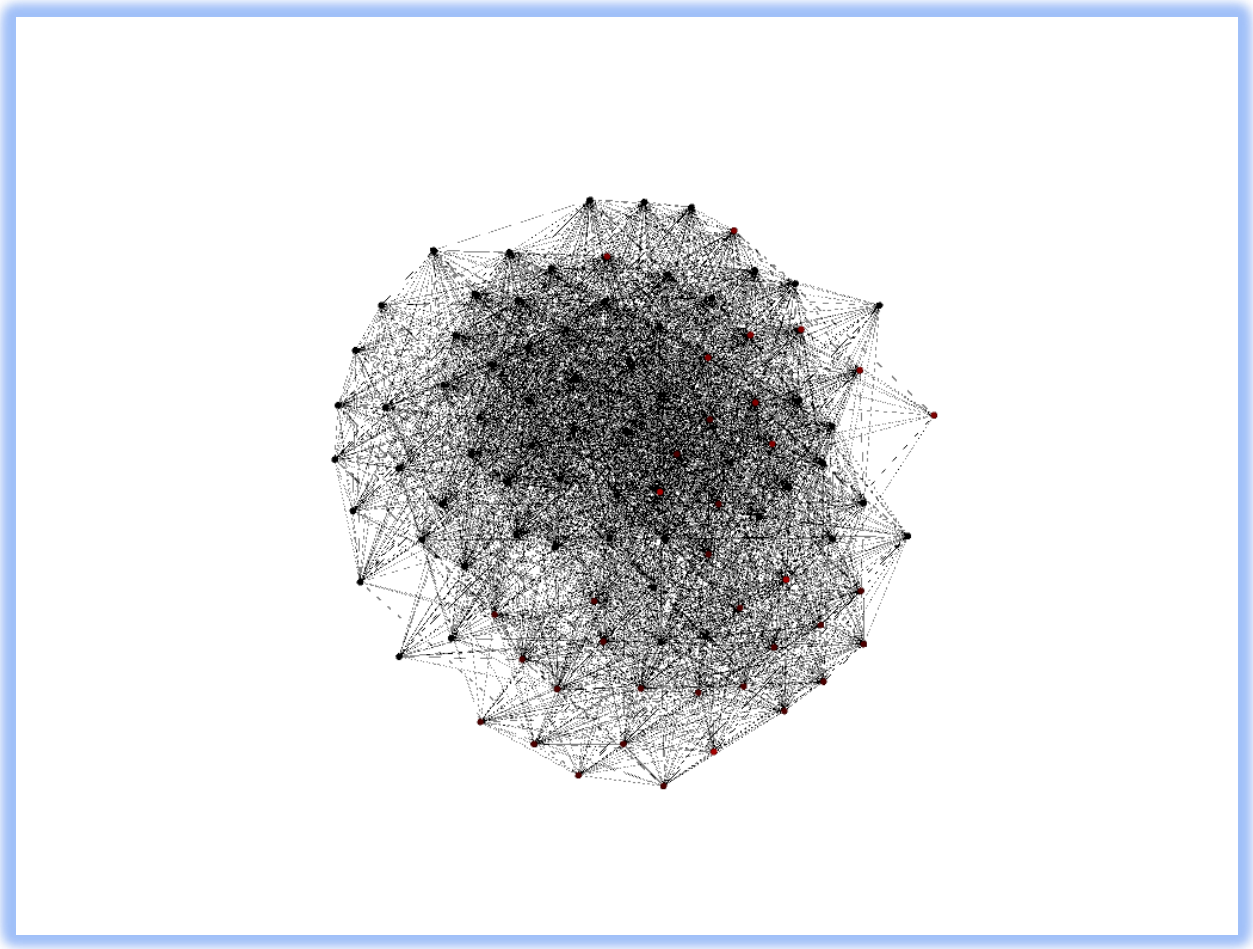
VETERINARY CLINIC E-BOOKS THAT LINK TO: HANDBOOK OF SMALL ANIMAL RADIOLOGY & ULTASOUND.



Statistical analysis could be performed without creating the network graphs, but the graphs themselves are useful visuals of how focused or uniform the subject terms are. Graph 3 shows all the e-books and keyword links between them for the Veterinary Clinic Collection. Here there is a very dense collection of links with a bit of thinning on the outer periphery.

GRAPH 3

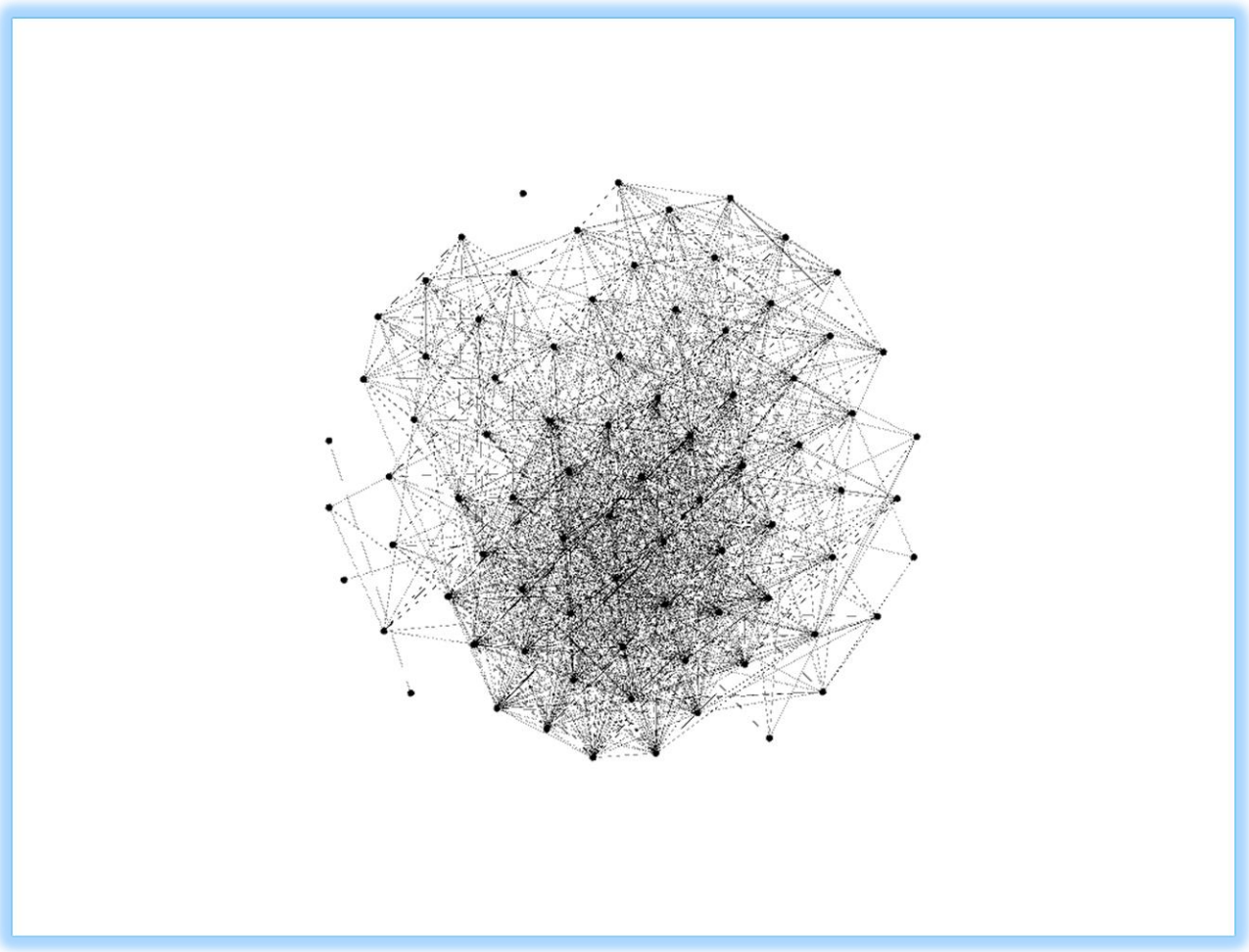
Network of 97 e-books in the Veterinary Clinic Collection.



Pharmacology is another medical specialty. Graph 4 is a network of subject links for the 82 e-books in the pharmacology collection. In comparison to the Veterinary Clinic Collection it is much less dense, indicating a less uniform subject concentration

GRAPH 4

Network of 82 e-books in the Pharmacology subject collection.



Rather than using graphs to illustrate the density of all the subject collections, the graph data for the major collections have been compiled into Table 2. The average number of keyword links per e-book is 41.7 for the Veterinary Clinic Collection. This is higher than the value for any of the subject collections. It would therefore have the graph with the highest density and the greater subject uniformity of any of the collections.

TABLE 2: SUBJECT CONCENTRATION: NODE AND LINK STATISTICS

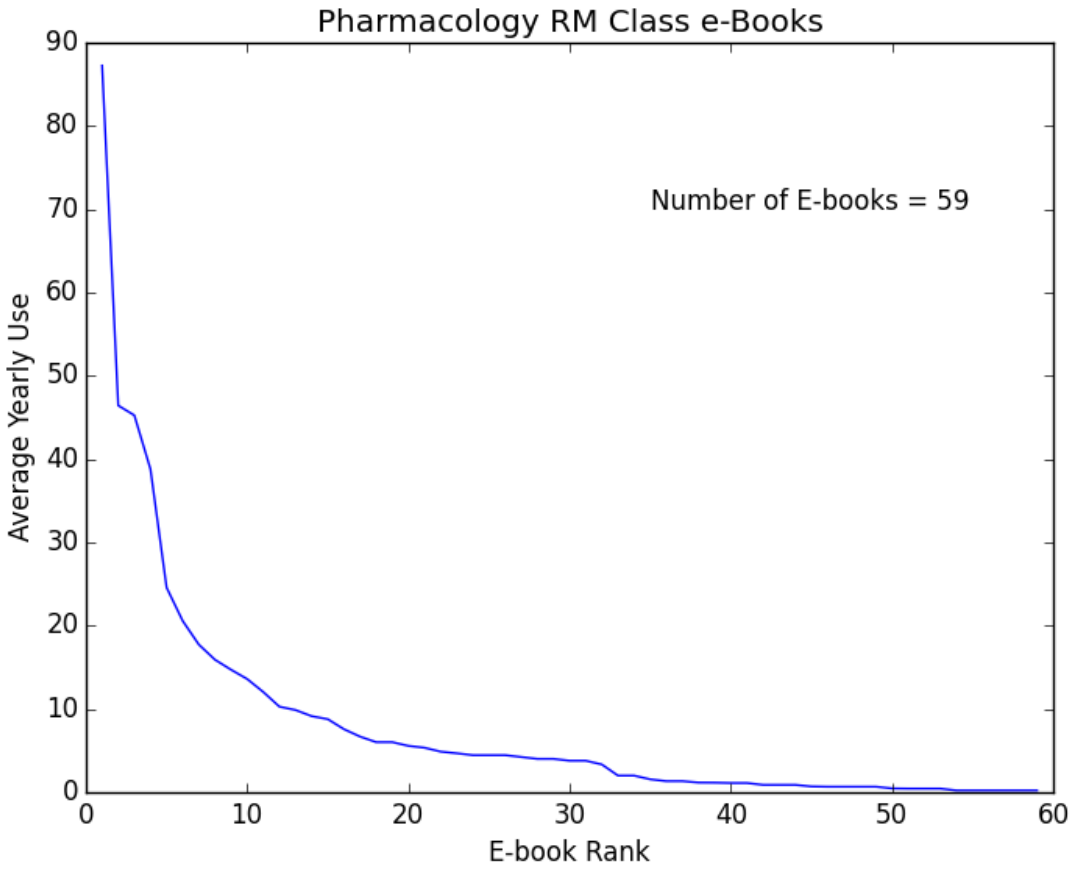
SUBJECT	LC CLASS	NUMBER OF E-BOOKS	NUMBER OF UNIQUE KEYWORDS	AVERAGE NUMBER OF KEYWORDS PER E-BOOK	TOTAL NUMBER OF KEYWORD LINKS BETWEEN E-BOOKS	AVERAGE NUMBER OF KEYWORD LINKS PER E-BOOK
Veterinary Clinic		97	180	1.8	4046	41.7
Oceanography	GC	93	135	1.4	178	1.9
Industry	HD	55	250	4.5	763	13.9
Finance	HG	36	181	5	330	9.2
Mathematics	QA	160	552	3.4	4846	30.3
Physics	QC	79	286	3.6	303	3.8
Chemistry	QD	58	232	4	336	5.8
Geology	QE	90	380	4.2	829	9.2
Physiology	QP	80	321	4	286	3.6
Internal Medicine	RC	290	659	2.3	9430	32.5
Surgery	RD	133	338	2.5	2373	17.8
Pharmacology	RM	82	260	3.2	1470	17.9
Veterinary Medicine	SF*	74	200	2.7	1529	20.7
Civil Engineering	TA	93	349	3.7	1116	12
Electrical & Nuclear	TK	213	728	3.4	6580	30.9
Photography	TR	107	363	3.4	2959	27.6

Within any book collection there will be wide disparities in how frequently different books within the collection are used. This is certainly true for e-book collections. A visual representation of this disparity can be shown from a graph of a Zipf distribution. All of the e-

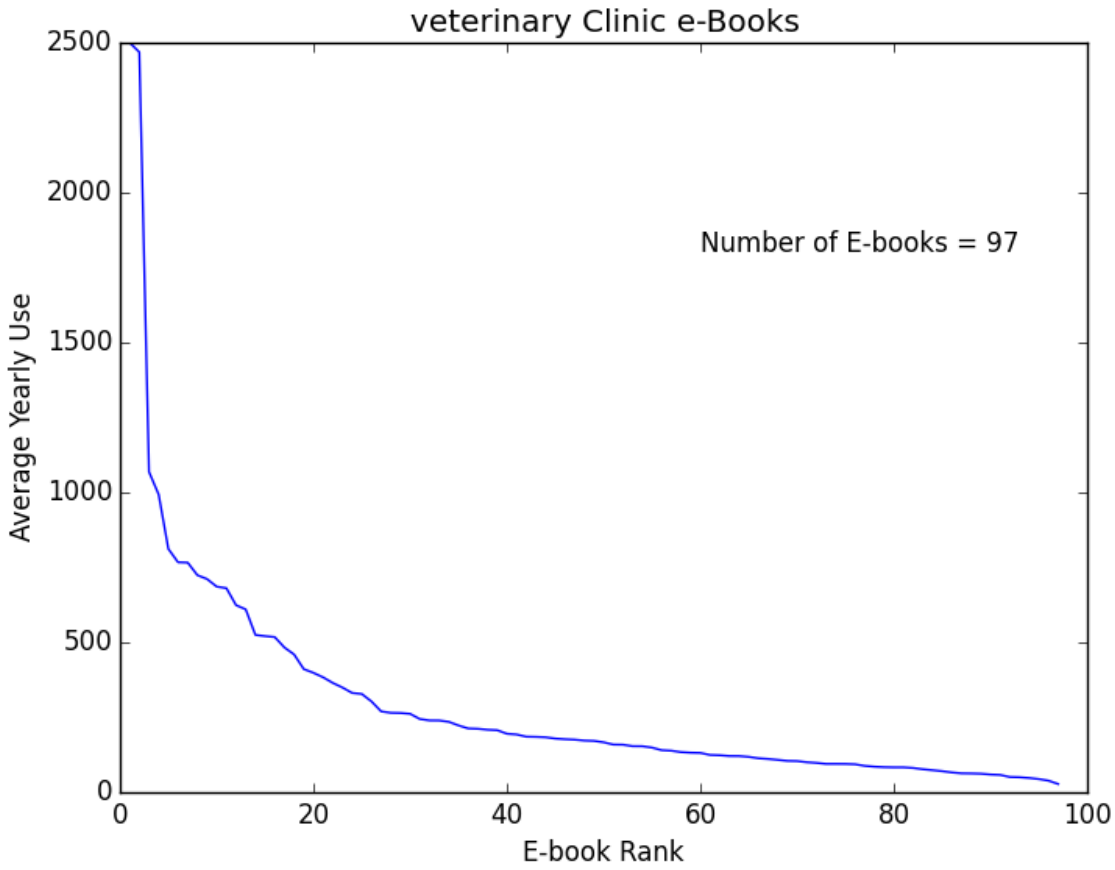
Use within Collections

books within the collection are ranked from the most frequently used e-books to the least used and their use is tallied on the vertical axis of the graph. Graph 5 shows the use of e-books for the pharmacology collection. The bottom axis gives the rank of the e-book; the vertical axis gives the average yearly use for that book. The e-book with the highest rank, that is number one on the bottom axis, has an average yearly use of 87 while the e-book ranked 59 has a use close to zero. E-books with zero use are not used in the graph. As the graph illustrates, the disparities in use are extremely large. Graph 6 shows the same type of distribution for the Veterinary Clinic Collection.

GRAPH 5



GRAPH 6



It has been demonstrated through graph analysis of subject terms that the Veterinary Clinic Collection has the greatest subject uniformity of any of the subject collections. It should therefore be reasonable to assume that it has the greatest uniformity in the average yearly use. That is, the differences in use between the books in this collection should be smaller than that of any of the subject collections. Testing this hypothesis can be difficult. The Zipf distribution can be represented by a formula similar to the power law.

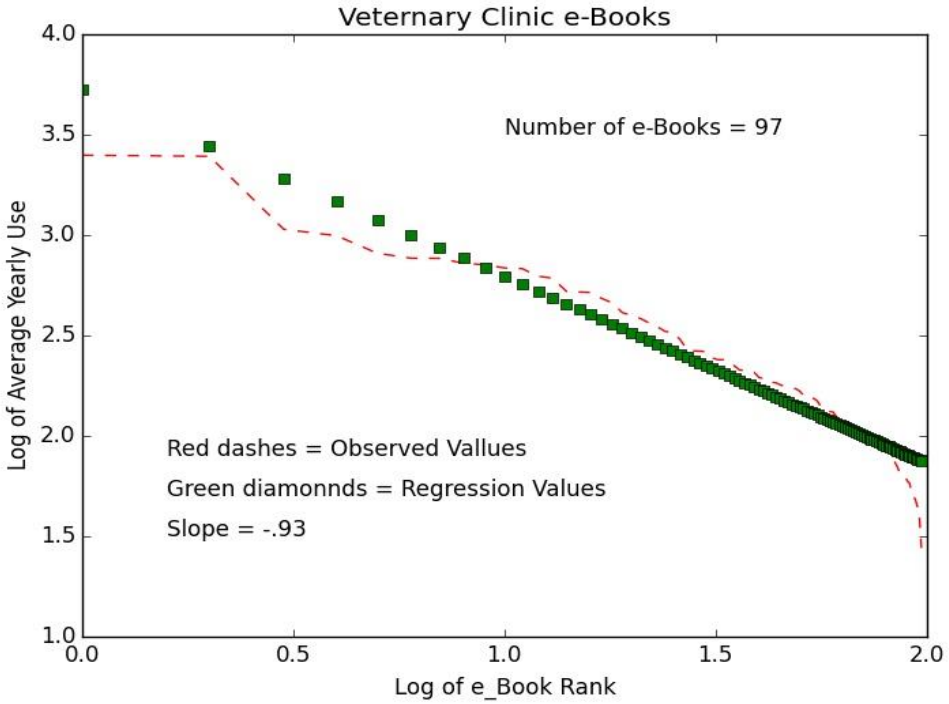
$$\text{Average-Yearly-Use} = \text{Constant} \times (1/\ \text{e-book-rank}^{x})$$

The value of "x" in "1/e-book-rank^{x} " gives the degree of disparity between e-book use in the collection. If "x" is zero, there is no difference; all e-books would have the same average yearly use. The larger the value of "x" the larger will be the differences in average yearly use between the e-books. The test is complicated by the fact that data seldom fit perfectly into this formula,

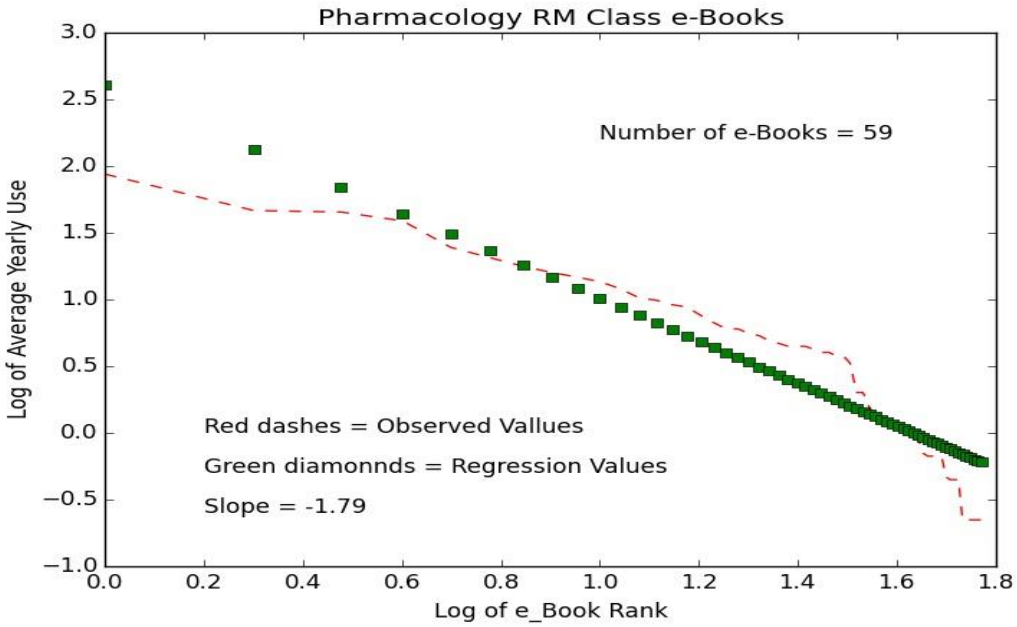
meaning that the value of “x” must be estimated with a regression line and therefore introducing some degree of error into the estimated value.

The value of “x” is obtained by converting the e-book rank and its average yearly use into logarithms and redoing the plot (Adamic). Graphs 7 and 8 show plots for the Veterinary Clinic Collection and for the pharmacology collection. Since it is not a perfectly straight line, a regression line has been fitted to the plot. The red dashes show actual values; the green diamonds show the regression plot. The value of “x” is the negative value of the regression line slope.

GRAPH 7



GRAPH 8



The value of "x" for a number of the e-book collections were calculated. Their values are shown in Table 3. Only collections with a reasonable fit between the regression and the actual values are represented. Beyond these selected collections the lack of fit would cause a high degree of error and be untrustworthy.

The data from the 13 collections in Table 3 support the hypothesis: The Veterinary Clinic Collection, having the greatest subject uniformity, also has the greatest uniformity of use. Of these 13 libraries the Veterinary Clinic Collection has a value for "x" closest to zero and hence the collection with the highest uniformity or the least differences in the use among the e-books in the collection.

Table 3

SUBJECT	LC CLASS	NUMBER OF E-BOOKS	NUMBER OF E-BOOKS WITH ZERO USE	NUMBER OF E-BOOKS USED IN THE ANALYSIS	ADJUSTED REGRESION R SQUARE	VALUES FOR "X"
VETERINARY CLINIC COLLECTION		97	0	97	0.926	0.933
Chemistry	QD	58	6	52	0.89	1.728
Ophthalmology	RE	68	37	31	0.885	1.409
Commerce	HF	35	4	31	0.876	1.6839
Pediatrics	RJ	62	14	48	0.872	1.3462
Pharmacology	RM	82	23	59	0.858	1.5969
Internal Medicine	RC	290	50	240	0.85	1.5623
Physics	QC	79	21	58	0.831	1.802
Zoology	QL	33	0	33	0.828	1.87
Geology	QE	90	26	64	0.823	1.518
Mining &Metalurgy	TN	77	26	51	0.818	1.3449
Surgery	RD	133	32	101	0.815	1.4492
General Medicine	RA	42	6	36	0.814	1.7501

DISCUSSION

The Veterinary Clinic Collection existed as a small print collection before it evolved into an e-book collection. Although there are no statistics for its use, hearsay supports the idea that it was used heavily. Being a print collection, however, it was not a viable collection model to emulate. In the German universities of the past this model had its advantages, but the need for wider access and interdisciplinary research made them anomalies.

E-book collections made easily available through Libguides now make it possible to create mission focused collections for advanced students and faculty without the drawbacks of the old style "Seminarbibliothek". In a sense the mission focused e-book collection is a rebirth of the highly specialized "Seminarbibliothek." The Veterinary Clinic Collection is a powerful example of such a mission focused collection. It has extremely high use, a subject matter focused on the mission rather than an academic subject, and a balanced use of materials within the collection. For the collection development librarian they present one more venue for increasing the use of the library holdings and benefiting the stakeholders within the institution. Returning to a conceptual level, one might think of this approach as another librarian driven acquisition strategy, but one with a mission focus rather than an academic subject focus and where stakeholders are critical for their success.

CONCLUSION

Librarian driven acquisition and patron driven acquisition will continue to be mainstays in collection development. In the future librarians working in university settings will need to form a strategy to create mission focused collections. American universities, whether we are comfortable with it or not, are becoming more like the German university. More and more specialized research units and problem solving units are being created within the modern university. These units have more of a mission focus than a subject focus. Their mission is not the disinterested contribution to the state of knowledge, but the solution of real world problems, in health, government, industry, environment, conflict resolution, etc. Most librarians with subject collection responsibilities have created subject focused Libguides. That includes the three authors of this study. Mission focused collections fashioned in the form of Libguides could greatly accelerate the progress of these working units. They would also greatly increase the use of the libraries e-book collections.

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APPENDEX: VETERINARY CLINIC E-BOOK TITLES RANKED BY THEIR AVERAGE YEARLY USE[1]

Rank	Title	Average Yearly Use
1	Saunders manual of small animal practice [electronic resource] / [edited by] Stephen J. Birchard, Robert G. Sherding.	2499.
2	Small animal critical care medicine [electronic resource] / [edited by] Deborah C. Silverstein, Kate Hopper.	2468.
3	Handbook of small animal practice [electronic resource] / [edited by] Rhea V. Morgan.	1068.
4	Slatter's fundamentals of veterinary ophthalmology [electronic resource] / edited by David J. Maggs, Paul E. Miller, Ron Ofri.	993.
5	Current therapy in equine medicine 5 [electronic resource] / edited by N. Edward Robinson.	811.
6	Canine internal medicine secrets [electronic resource] / [edited by] Stanley I. Rubin, Anthony P. Carr.	767.
7	Withrow & MacEwen's small animal clinical oncology [electronic resource] / [edited by] Stephen J. Withrow, David M. Vail.	766.
8	Current veterinary therapy 5 / [electronic resource] : food animal practice. [edited by] David E. Anderson, D. Michael Rings.	724.
9	Reptile medicine and surgery [electronic resource] / [edited by] Douglas R. Mader, with 72 contributing authors.	711.
10	Equine surgery [electronic resource] / [edited by] Jo??rg A. Auer, John A. Stick."	685.
11	Fluid, electrolyte, and acid-base disorders in small animal practice [electronic resource] / Stephen P. DiBartola.	680.
12	Manual of canine and feline cardiology [electronic resource] / [edited by] Larry P. Tilley ... [et al.].	624.
13	Equine internal medicine [electronic resource] / edited by Stephen M. Reed, Warwick M. Bayly, and Debra C. Sellon.	610.
14	Consultations in feline internal medicine volume 5 [electronic resource] / [edited by] John R. August.	524.
15	Ferrets, rabbits, and rodents [electronic resource] : clinical medicine and surgery : includes sugar gliders and hedgehogs / [edited by] Katherine E. Quesenberry, James W. Carpenter.	520.
16	Textbook of respiratory diseases of the dog and cat [electronic resource] / Lesley G. King.	517.
17	Feline internal medicine secrets [electronic resource] / [edited by] Michael R. Lappin.	482.
18	Brinker, Piermattei, and Flo's handbook of small animal orthopedics and fracture repair [electronic resource] / Donald L. Piermattei, Gretchen L. Flo, Charles E. DeCamp ; illustrations by F. Dennis Giddings.	459.
19	Veterinary emergency medicine secrets [electronic resource] / [edited by] Wayne E. Wingfield.	410.
20	Diagnostic radiology and ultrasonography of the dog and cat [electronic resource] / J. Kevin Kealy, Hester McAllister, John P. Graham.	398.
21	Atlas of orthopedic surgical procedures of the dog and cat [electronic resource] / Ann L. Johnson, Dianne Dunning.	383.
22	Small animal surgery secrets [electronic resource] / [edited by] Joseph Harari.	364.

23	Current therapy in large animal theriogenology [electronic resource] / [edited by] Robert S. Youngquist, Walter R. Threlfall.	349.
24	Farm animal surgery [electronic resource] / Susan L. Fubini, Norm Ducharme.	331.
25	Equine infectious diseases [electronic resource] / [edited by] Debra C. Sellon, Maureen T. Long.	327.
26	Handbook of small animal radiology and ultrasound [electronic resource] : techniques and differential diagnoses / Ruth Dennis ... [et al.].	303.
27	Kirk and Bistner's handbook of veterinary procedures and emergency treatment [electronic resource] / Richard B. Ford, Elisa M. Mazzaferro.	269.
28	Atlas of surgical approaches to the bones and joints of the dog and cat [electronic resource] / Donald L. Piermattei, Kenneth A. Johnson ; illustrations by F. Dennis Giddings.	265.
29	Sheep & goat medicine [electronic resource] / edited by D.G. Pugh.	264.
30	Equine respiratory medicine and surgery [electronic resource] / edited by Bruce C. McGorum ... [et al.].	261.
31	Small animal dermatology [electronic resource] : a color atlas and therapeutic guide / Linda Medleau, Keith A. Hnilica.	244.
32	Small animal cardiology secrets [electronic resource] / edited by Jonathan Abbott.	239.
33	Handbook of small animal gastroenterology [electronic resource] / [edited by] Todd R. Tams.	239.
34	Problem-based feline medicine [electronic resource] / edited by Jacquie Rand.	235.
35	Equine emergencies [electronic resource] : treatment and procedures / James A. Orsini, Thomas J. Divers.	222.
36	Zoo and wild animal medicine [electronic resource] : current therapy / Murray E. Fowler, R. Eric Miller.	212.
37	Color atlas of diseases and disorders of the foal [electronic resource] / edited by Siobhan B. McAuliffe, Nathan M. Slovis.	211.
38	Medical history and physical examination in companion animals [electronic resource] / edited by A. Rijnberk, F.J. van Sluijs ; translated by B.E. Belshaw.	208.
39	Equine manual [electronic resource] / edited by Andrew J. Higgins, Jack R. Snyder.	207.
40	Small animal cardiology [electronic resource] / O. Lynne Nelson.	195.
41	Small animal dermatology secrets [electronic resource] / Karen L. Campbell.	192.
42	Manual of equine field surgery [electronic resource] / David A. Wilson ... [et al.].	185.
43	Veterinary dental techniques [electronic resource] : for the small animal practitioner / Steven E. Holmstrom, Patricia Frost Fitch, Edward R. Eisner ; new illustrations for the third edition by Jean Schroeter ; illustrations by Leo Hagstrom.	184.
44	Small animal endoscopy [electronic resource] / [edited by] Todd R. Tams, Clarence A. Rawlings.	183.
45	Veterinary diagnostic imaging [electronic resource] : the dog and cat / Charles S. Farrow.	179.
46	Cancer management in small animal practice [electronic resource] / [edited by] Carolyn J. Henry, Mary Lynn Higginbotham.	177.
47	Equine ophthalmology [electronic resource] / Brian C. Gilger.	175.
48	Diagnostic techniques in equine medicine [electronic resource] : a textbook for students and practitioners describing diagnostic techniques applicable to the adult horse / edited by Frank G.R. Taylor, Tim J. Brazil, M.H. Hillyer.	172.
49	Equine anesthesia [electronic resource] : monitoring and emergency therapy / [edited by] William W. Muir, John A.E. Hubbell.	171.

50	Diagnosis and management of lameness in the horse [electronic resource] / Mike W. Ross, Sue J. Dyson.	166.
51	Small animal ophthalmology secrets [electronic resource] / [edited by] Ronald C. Riis.	159.
52	Canine rehabilitation & physical therapy [electronic resource] / [edited by] Darryl L. Millis, David Levine, Robert A. Taylor.	158.
53	Feline orthopedic surgery and musculoskeletal disease [electronic resource] / [edited by] P.M. Montavon, K. Voss, S.J. Langley-Hobbs.	153.
54	Handbook of avian medicine [electronic resource] / edited by Thomas N. Tully, Jr., Gerry M. Dorrestein, Alan K. Jones ; foreword by John E. Cooper.	153.
55	Equine sports medicine and surgery [electronic resource] : basic and clinical sciences of the equine athlete / edited by Kenneth W. Hinchcliff, Andris J. Kaneps, Raymond J. Geor ; foreword by Warwick Bayly ; illustrated by Ian Ramsden.	149.
56	Diagnostic cytology and hematology of the horse [electronic resource] / [edited by] Rick L. Cowell, Ronald D. Tyler.	140.
57	Emergency procedures for the small animal veterinarian [electronic resource] / Signe J. Plunkett.	138.
58	Rebhun's diseases of dairy cattle [electronic resource] / Thomas Divers, Simon Peek.	134.
59	Manual of equine reproduction [electronic resource] / Steven P. Brinsko ... [et al.].	132.
60	Small animal theriogenology [electronic resource] / [edited by] Margaret V. Root Kustritz.	131.
61	Handbook of pig medicine [electronic resource] / Peter G.G. Jackson, Peter D. Cockcroft.	124.
62	Color atlas of canine and feline ophthalmology [electronic resource] / Joan Dziezyc, Nicholas J. Millichamp.	123.
63	Small animal ear diseases [electronic resource] : an illustrated guide / Louis N. Gotthelf.	121.
64	Manual of equine gastroenterology [electronic resource] / edited by Tim Mair, Tom Divers, Norm Ducharme."	120.
65	Veterinary oncology secrets [electronic resource] / [edited by] Robert C. Rosenthal.	118.
66	Manual of exotic pet practice [electronic resource] / by Mark A. Mitchell, Thomas N. Tully Jr.	113.
67	Diagnostic and surgical arthroscopy in the horse [electronic resource] / C. Wayne McIlwraith ... [et al.] ; illustrations, Tom McCracken.	111.
68	Veterinary anaesthesia [electronic resource] / L.W. Hall, K.W. Clarke, C.M. Trim.	108.
69	Equine clinical pharmacology [electronic resource] / edited by Joseph J. Bertone, Linda J.I. Horspool.	104.
70	Equine dentistry [electronic resource].	104.
71	Veterinary diagnostic imaging [electronic resource] : birds, exotic pets, and wildlife / Charles S. Farrow.	100.
72	Handbook of equine radiography [electronic resource] / Martin Weaver, Safia Barakzai.	98.
73	Atlas of dental radiography in dogs and cats [electronic resource] / Gregg A. DuPont, Linda J. DeBowes ; with 837 illustrations.	94.
74	Veterinary pediatrics [electronic resource] : dogs and cats from birth to six months / Johnny D. Hoskins.	94.
75	Color atlas of diseases and disorders of cattle [electronic resource] / Roger W. Blowey, A. David Weaver ; with a foreword by Douglas C. Blood.	94.

76	Small animal spinal disorders [electronic resource] : diagnosis and surgery / Nicholas J.H. Sharp, Simon J. Wheeler ; illustrators and photographers, Joseph E. Trumpey ... [et al.].	93.
77	Equine dermatology [electronic resource] / Danny W. Scott, William H. Miller, Jr.	88.
78	Equine neonatal medicine [electronic resource] : a case-based approach / Mary Rose Paradis.	85.
79	Equine breeding management and artificial insemination [electronic resource] / [edited by] Juan C. Samper.	83.
80	Equine geriatric medicine and surgery [electronic resource] / [edited by] Joseph J. Bertone.	83.
81	Current therapy in equine reproduction [electronic resource] / Juan C. Samper, Jonathan F. Pycock, Angus O. McKinnon.	83.
82	Small animal radiology and ultrasonography [electronic resource] : a diagnostic atlas and text / Ronald L. Burk, Daniel A. Feeney.	81.
83	Poultry diseases [electronic resource] / edited by Mark Pattison ... [et al.].	76.
84	Small animal dentistry [electronic resource] / Paul Q. Mitchell.	73.
85	Geriatrics & gerontology of the dog and cat [electronic resource] / [edited by] Johnny D. Hoskins.	70.
86	Equine dentistry [electronic resource] / edited by Gordon J. Baker, Jack Easley.	66.
87	Anaesthesia of exotic pets [electronic resource] / Lesa Longley ; with contributions by Matthew Fiddes, Michelle O'Brien.	63.
88	Bovine laminitis and lameness [electronic resource] : a hands-on approach / Paul R Greenough ; consulting editors, Christer Bergsten, Alberto Brizzi, Christoph K.W. Mu??lling ; foreword by Ken Nordlund.	62.
89	Equine dermatology [electronic resource] / Danny W. Scott, William H. Miller, Jr.	61.
90	Radiology of birds [electronic resource] : an atlas of normal anatomy and positioning / Sam Silverman, Lisa Tell.	59.
91	Small animal arthroscopy [electronic resource] / Brian S. Beale ... [et al.].	57.
92	Veterinary endoscopy for the small animal practitioner [electronic resource] / editor, Timothy C. McCarthy ; assistant editor for the artwork, Gheorghe M. Constantinescu.	51.
93	Equine exercise physiology [electronic resource] : the science of exercise in the athletic horse / [edited by] Kenneth W. Hinchcliff, Raymond J. Geor, Andris J. Kaneps.	50.
94	Equine behavior [electronic resource] : a guide for veterinarians and equine scientists / Paul McGreevy ; foreword by Reuben Rose.	47.
95	Veterinary oncology [electronic resource] / Kevin A. Hahn.	44.
96	Handbook of equine anaesthesia [electronic resource] / P.M. Taylor & K.W. Clarke.	38.
97	Manual of equine reproduction [electronic resource] / T.L. Blanchard ... [et al.].	27.

1. These are the titles in the Veterinary Clinic Collection at the time the data were collected. It is actually a revolving collection. As information becomes outdated, titles are removed and new titles added.