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# Using Analytic Tools to Measure Overall Trends and Growth Patterns in Digital Commons Collections

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# Using Analytic Tools to Measure Overall Trends and Growth Patterns in Digital Commons Collections

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John R. Dover Memorial Library

Digital Commons  
Southeastern Users Group  
June 1, 2018



GARDNER-WEBB  
UNIVERSITY

# About Gardner-Webb University

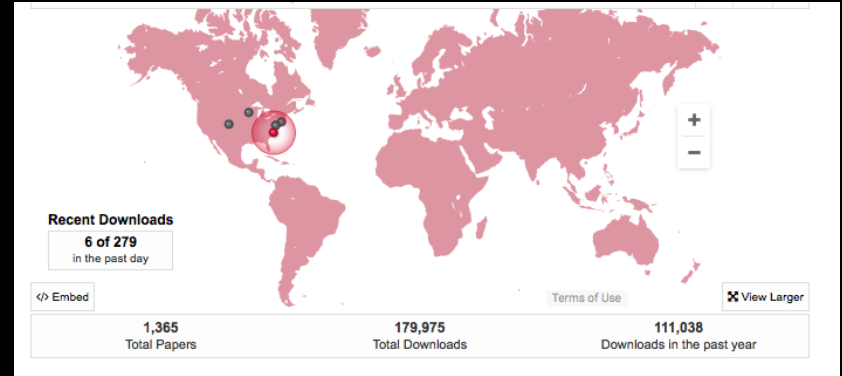
- Located in Boiling Springs, North Carolina
- Founded in 1905 as Boiling Springs High School
- Baptist affiliated
- Over 4,000 students and more than 170 full-time faculty
- Five professional schools, two academic schools and 13 academic departments offer more than 80 undergraduate and graduate major fields of study
- NCAA Division I; member of Big South Conference



# Overview of Digital Commons

**Digital Commons @ Gardner-Webb University** was launched in Fall 2015.

The repository includes both undergraduate and graduate theses and dissertations, three journals, an OER publication, digital archive materials, and faculty publications.

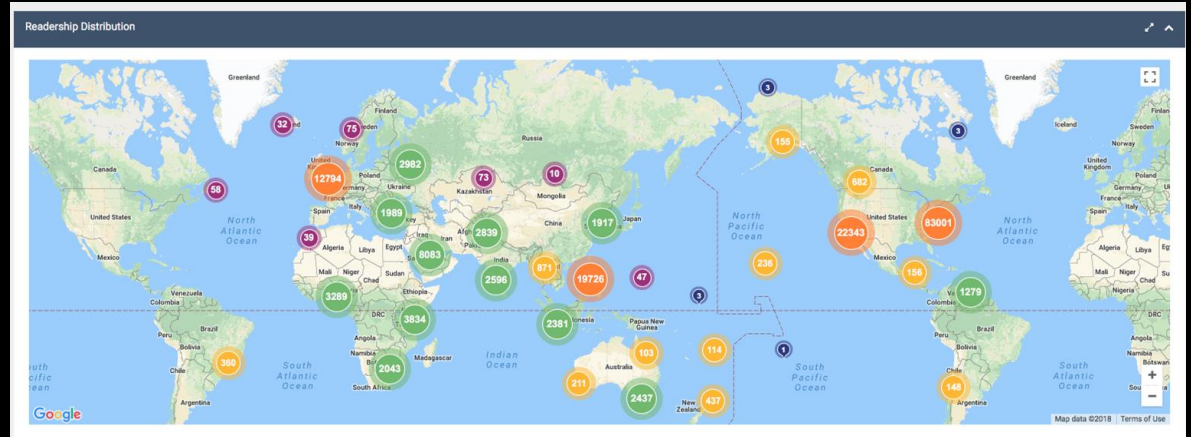


Readership Map

<https://digitalcommons.gardner-webb.edu>

# Usage Statistics and Tracking Tools

Digital Commons  
Dashboard  
Google Analytics



Digital Commons Dashboard

# Digital Commons Dashboard Statistics

- Provides the best reporting metrics available to us – full-text download counts – as well as metadata page hits, submissions, countries, institutions, and referrers
- Uses a robust set of techniques, including the real-time application of a weighted and finely tuned algorithm, to eliminate suspected bot traffic from the numbers. 38% of all activity is determined to be from valid human interaction
- Allows for comparable statistical comparisons with other Digital Commons institutions

# Usefulness and Limitations of Google Analytics for IRs

- Google Analytics provides useful information on user demographics and helps us spot general trends on user traffic
- Was not designed for educational use
- Uses page tagging analytics – activity is only logged when a user lands on an HTML page in Digital Commons containing the Google Analytics code
- Significantly undercounts true site activity because users who go directly to a PDF are not counted
- Requires advanced configuration changes in order to track non-HTML citable content downloads.
- A study by O'Brien and Arlitsch (2016) found that 58% of human-generated IR activity goes unreported by Google Analytics



# Most Popular Collections

## Theses and Dissertations

- Nursing
- Education

## Archival Materials

## Journals





# Downloads by Publication Type (Dashboard)

Publication Type	Downloads
Book Gallery	10,924
ETD Series	159,269
Event Community	266
Image Gallery	179
Journal	8803
Series	3196

# Most Downloaded Journal Articles (Dashboard)

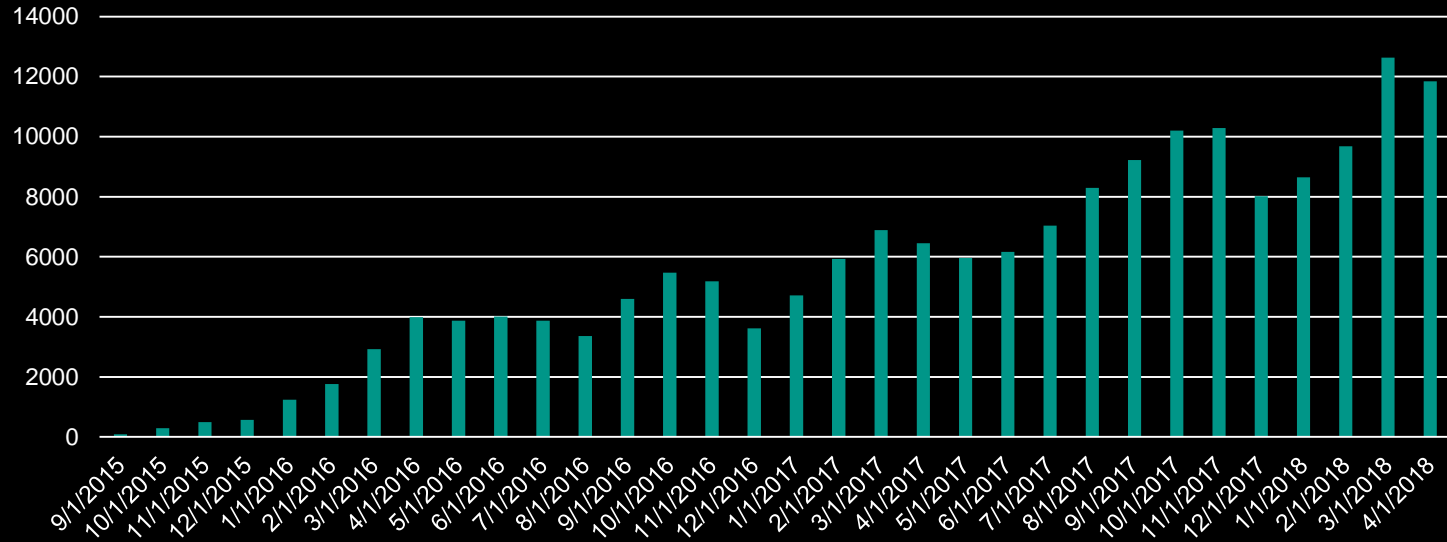
Title	Downloads
Teacher Morale, Student Engagement, and Student Achievement Growth in Reading: A Correlational Study	1457
Grief, Bereavement, and Positive Psychology	1234
Does mClass Reading 3D Predict Student Reading Proficiency on High-Stakes Assessments?	673
Introduction to Animal Therapy and its Related Tax Benefits	526
Positive Counseling with College Students	471
Program Evaluation of Alternative Schools in North Carolina: A Companion Dissertation	372

## Most Downloaded University Archives Items (Dashboard)

Item	Downloads
Broad River Review Vol. 45 (2013)	150
Broad River Review Vol. 47 (2015)	142
The Birth of a Nation – The Most Stupendous and Fascinating Motion Picture ...	107
Thomas Dixon: NC's Most Colorful Character of His Generation	82
1851 Minutes of the Kings Mountain Baptist Association	81
Broad River Review Vol. 51 No. 1 (Spring 2016)	80
Version 2 – Thomas Dixon: NC's Most Colorful Character of His Generation	78
1929 Minutes of the Kings Mountain Baptist Association	76



# Full-text downloads by Month (Dashboard)



# Users by Month (Google Analytics)

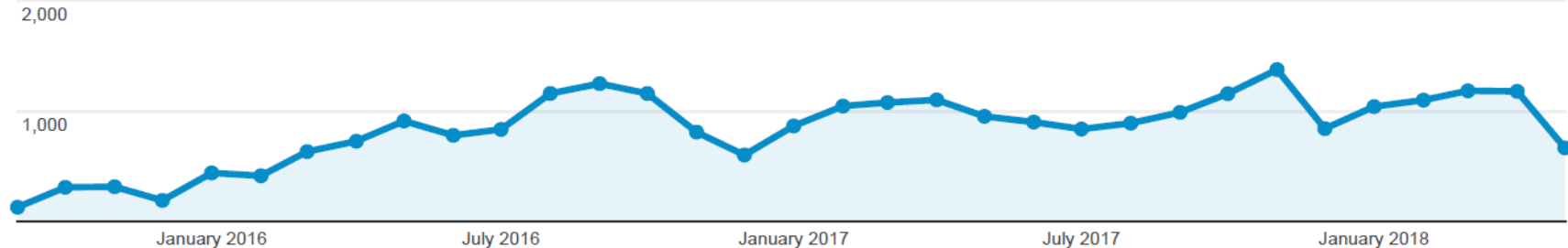
## Audience Overview

All Users  
100.00% Users

Sep 1, 2015 - May 17, 2018

### Overview

● Users



# Downloads by Discipline (Dashboard)

Discipline	Downloads
Medicine & Health Sciences	109,395
Education	53,296
Arts & Humanities	18,651
Social & Behavioral Sciences	4628
(no discipline)	1389
Business	660
Life Sciences	196

# Downloads by Institution Type (Dashboard)

Institution Type	Percentage
Education	50%
Commercial	27%
Organization	13%
Government	6%
Library	0
Military	0

# Downloads by Country (Dashboard)

Country	Percentage
United States	57.9%
Philippines	7.7%
United Kingdom	4.10%
Canada	2.09%
India	1.80%
Malaysia	1.72%
Australia	1.54%



# Downloads by Country (Google Analytics)

Country	Percentage
United States	64.05%
Russia	6.77%
Philippines	4.24%
United Kingdom	2.47%
Canada	1.86%
Australia	1.56%
India	1.18%

# Top Full-Text Downloads (Dashboard)

Title	Downloads
Nursing Knowledge and Attitudes toward Pain Management	10272
Evidence Based Practice: Patient Discharge Education Barriers to Patient Education	5948
Impact of Nurse Managers' Leadership Styles on Staff Nurses' Intent to Turnover	5458
An Assessment of Nurses' Knowledge and Attitudes toward End of Life Care Pain Management	4676
The Impact of Computer-Aided Instruction on Student Achievement	3871
An Evaluation of a Remedial Reading Program for Middle-Grade Students in a Southeastern State Public School	3526

# Most Downloaded Document

**NURSING THESES AND CAPSTONE PROJECTS**

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**Nursing Knowledge and Attitudes toward Pain Management**

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[Joycelyn A. Craig, Gardner-Webb University](#)

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**Date of Award**  
2014

**Document Type**  
Thesis

**Degree Name**  
Master of Science in Nursing (MSN)

**First Advisor**  
Tracy D. Arnold

**Abstract**

[Download](#)

**10,220 DOWNLOADS**  
Since September 09, 2015

**INCLUDED IN**  
[Occupational and Environmental Health Nursing Commons](#)

**SHARE**  
[f](#) [t](#) [in](#) [G+](#) [e](#) [+](#)

Metadata page for Nursing thesis

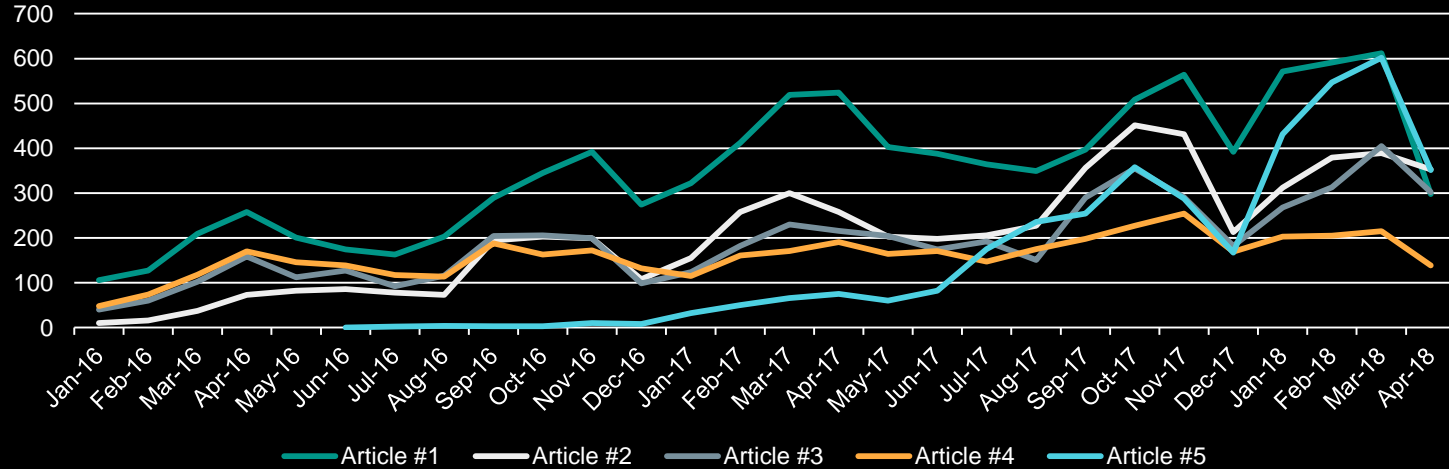
“Nursing Knowledge and Attitudes toward Pain Management” is the top downloaded document in the entire repository.

# Top Article Downloads by Country (Dashboard)

Country	Downloads
United States	3491
United Kingdom	1178
Philippines	333
Malaysia	328
Nigeria	311
Kenya	277
Ethiopia	276

# Sustained Growth in Top 5 Full Text Downloads

Top 5 Downloaded Articles over Time



# Referrals

Top Referrer: Google

- Global outreach

Very little access through library databases and catalog

- Local outreach



Credit: [Wikimedia Commons](#)

# Downloads by Referrer (Dashboard)

Country	Percentage
www.google.com/	43.1%
www.google.com.ph/	6.84%
www.google.com/url	5.93%
www.google.co.uk/	2.78%
www.bing.com/	1.88%
scholar.google.com/	1.72%
www.google.ca/	1.56%

# Downloads by Referrer (Google Analytics)

Country	Percentage
scholar.google.com	21.95%
network.bepress.com	14.93%
site-auditor.online	9.65%
rank-checker.online	9.11%
m.facebook.com	5.88%
monetizationking.net	4.70%
website-analytics online	3.10%



# Occupational and Environmental Health Nursing Commons

## Popular Articles

Based on downloads in December 2017

[Follow](#)

[Nursing Knowledge And Attitudes Toward Pain Management](#), Joycelyn A. Craig

 Gardner-Webb University


[Evidence Based Practice: Patient Discharge Education Barriers To Patient Education](#), Catherine Lyerly Lingle

 Gardner-Webb University

[Impact Of Nurse Managers' Leadership Styles On Staff Nurses' Intent To Turnover](#), Joseph Warren L. Perez

 Gardner-Webb University

[Evidence-Based Verbal De-Escalation Techniques For The Family Nurse Practitioner: Education And Simulation](#), Rachael K. Misitano

 University of San Francisco

[Relationship Between Job Satisfaction And Nurse To Patient Ratio With Nurse Burnout](#), Kayla Teeter

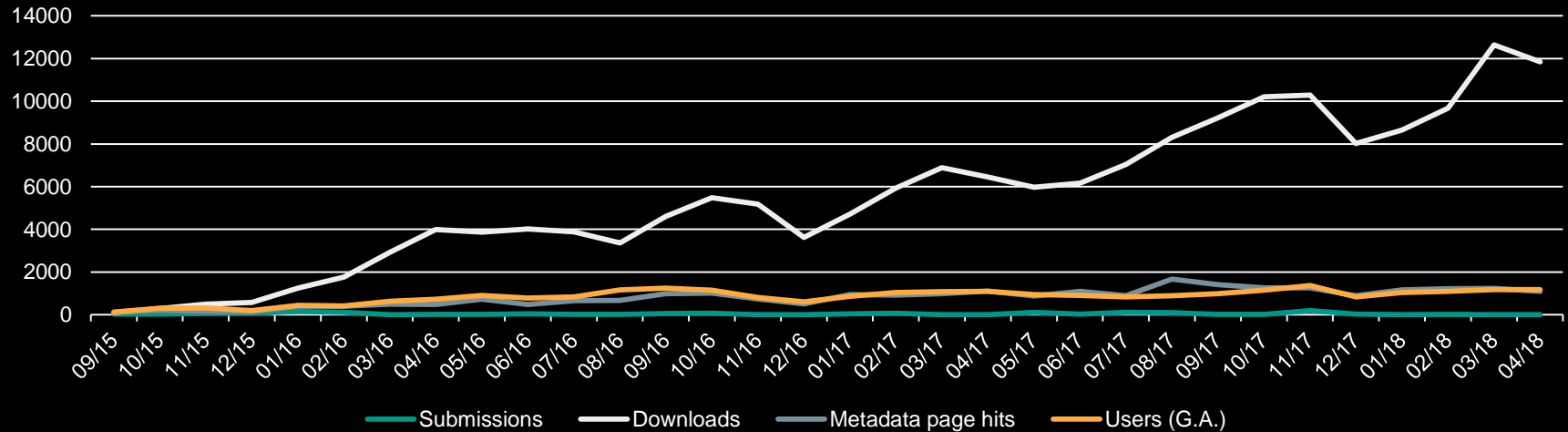
 Gardner-Webb University

# Download Patterns and Trends

- Current topics - opioid crisis, teacher morale
- Important time periods - 1918, 1929
- Download growth follows academic calendar
  - All time record download month: March 2018
- Year-to-year growth in relation to number of works added

# Comparative Numbers Growth by Month

Numbers Growth



# Outreach to Least Developed Countries

- Based on the United Nations' March 2018 list of Least Developed Countries\*, we saw at least one download from 36 of the 47 countries. The total of 3804 downloads accounts for 2.15% of our total downloads.

By the numbers:

- Ethiopia was 21<sup>st</sup> on our list with 846 downloads.
- Nepal was 29<sup>th</sup> on our list with 680 downloads
- Uganda was 34<sup>th</sup> on our list with 480 downloads
- Myanmar was 41<sup>st</sup> on our list with 336 downloads

\*Economic Analysis and Policy Division (2018). LDCs at a Glance. *United Nations*. Retrieved from <https://www.un.org/development/desa/dpad/least-developed-country-category/lpcs-at-a-glance.html>.

# Improvements: File Management

- Reduce file sizes for better user experience
  - Large scanned image files
  - Reduce file sizes in Adobe Acrobat
  - File size warning

**SERIES 1: KINGS MOUNTAIN BAPTIST ASSOCIATION  
MINUTE BOOKS**

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 **1970 Minutes of the Kings Mountain Baptist Association**

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[Kings Mountain Baptist Association](#)

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**Download Full Text (9.2 MB)** [Download](#)

---

**Description**  
The 1970 meeting of the Kings Mountain Baptist Association met at Elizabeth Baptist Church in Shelby, NC. The minutes were dedicated to the late pastors Rev. Elford C. Willingham, Jr. and Rev. Wayne Ashe. Gardner-Webb College reported that it has become a senior college. The General Board reported the approval of sponsoring the Youth and Family Service Ministry in the area.

Files over 3MB may be slow to open. For best results, right-click and select "save as..."

Metadata page with file size warning example

# Improvements: Searchable PDF

- Allows keyword searching within the file
- Improved accessibility for screen reader users

## An American Epic of Attainment

IT IS a fine, fine thing, that Dr. Chevalier Jackson has done in writing his autobiography. This most famous throat surgeon of his time, and the friend and counselor of many great singers, has produced a book as rich in human interest and general information as Dr. Victor Heiser's "An American Doctor's Odyssey," or Dr. Axel Munthe's "The Story of San Michele." Courageous and kind-hearted, he tells a story of almost incredible privations and sufferings in order to secure an education. A precocious youngster, small and frail, he aroused the jealousy of bigger boys who went to school with him near his home, which was on the edge of one of the bituminous coal districts a few miles west of Pittsburgh. They found him so far ahead of them in school work that they tormented, tortured and bullied him almost unbelievably. Dr. Jackson explains this as a case of inferiority complex upon the part of the boys, who entered school so late that some of them were in the primer at seventeen years of age, whereas he had entered school at four. An inferiority complex sets up a defense mechanism, and in this instance it took the form of cruelty to the little student, through physical torture. Everyone knows, however, that a bully is always a coward at heart, and Dr. Jackson's childhood lullies have passed into oblivion while he has advanced to immortal heights.

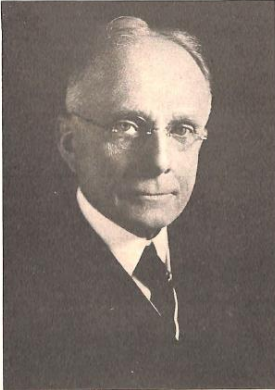
The story of his voyage in the fifth of the steerage of an ocean liner, in order that he might study with the great London throat specialist, Sir Morell Mackenzie, is a little epic of determination. He tells with glee how he was

but the percentage of recovery was very small. Dr. Jackson, by reason of his development of the bronchoscope, and by his fabulously delicate and sure touch, has thus personally saved thousands of lives. He attributes his surety of touch, and his freedom from tremor at three seas and ten, very largely to his lifelong abstinence from alcohol and tobacco.

In treating the throats of a vast number of singers, he has always enjoined them not to smoke or to drink. He looks upon morphine and alcohol as diluted poisons peculiarly injurious to the mucous membrane of the throat and the nerve control of the delicate muscles of the larynx. He is so convinced of the grave evils of alcohol that he refuses (except where unavoidable) to patronize a hotel or a restaurant selling liquors. He also puts strictures upon the abuse of the voice through yelling, such as one hears at football games. According to his experience this does untold damage to the vocal organs of those who intend to become singers.

An extraordinary man is Dr. Jackson, five feet eight inches tall, very thin, very agile, subsisting upon a most frugal diet, eschewing meat, he nevertheless has the endurance to tire out many younger helpers. At seventy-three he has the vigor and activity of a youth. An enthusiastic fellow Rotarian, we have seen him at many luncheons, when summoned by a hotel attendant, dart off with the alacrity of a young interne answering his first ambulance call.

Permitting himself almost no social life, Dr. Jackson has given his time to his profession with the devotion of an ascetic. His dominating passion has been his love



DR. CHEVALIER JACKSON

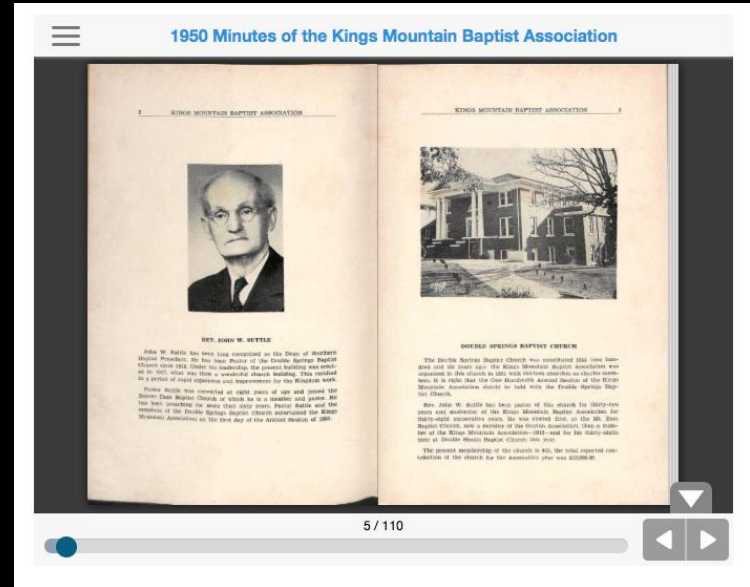
Searchable PDF example



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# Improvements: Multiple Access Points

- Internet Archive
  - Embeddable Book Reader
  - Additional document types available



Internet Archive BookReader

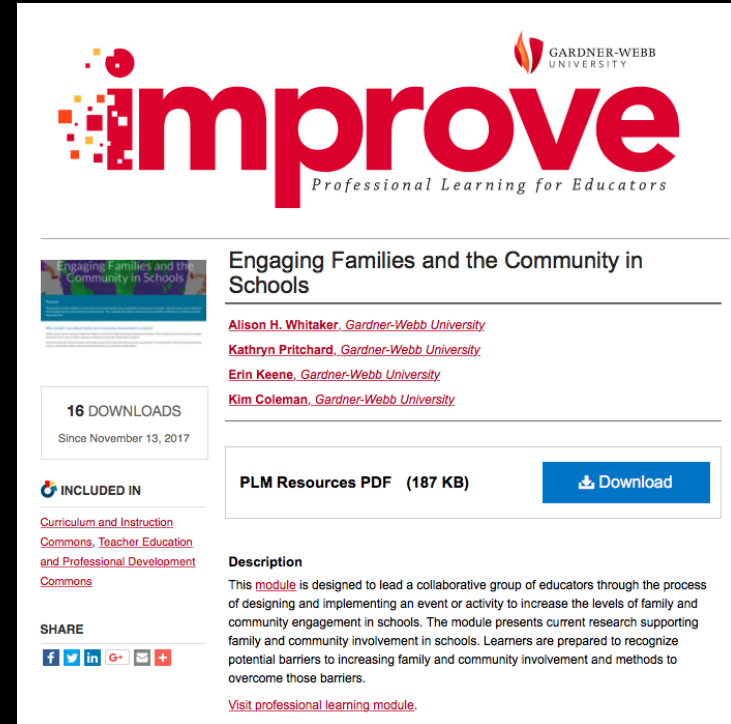


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# IMPROVE example

Instructional Modules for Professional learning Responding to Opportunities and Valuing Educators (IMPROVE) is a peer-reviewed virtual professional development resource.

Modules available both on the web and via PDF



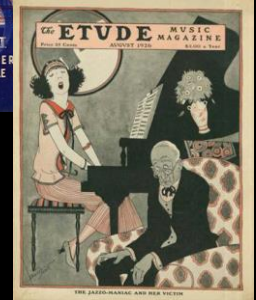
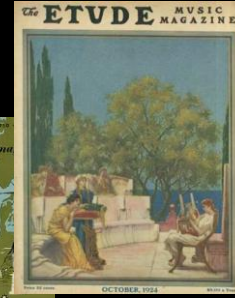
The screenshot displays the IMPROVE website interface. At the top right is the Gardner-Webb University logo. The main header features the 'improve' logo in red, with the tagline 'Professional Learning for Educators' below it. The featured module is 'Engaging Families and the Community in Schools', with a small thumbnail image on the left. Below the title, the authors are listed: Allison H. Whitaker, Kathryn Pritchard, Erin Keene, and Kim Coleman, all from Gardner-Webb University. A box indicates '16 DOWNLOADS' since November 13, 2017. A section titled 'INCLUDED IN' lists 'Curriculum and Instruction Commons, Teacher Education and Professional Development Commons'. A 'SHARE' section includes icons for Facebook, Twitter, LinkedIn, Google+, Email, and a plus sign. A 'PLM Resources PDF (187 KB)' is available for download via a blue button. A 'Description' section explains that the module is designed for collaborative groups of educators to increase family and community engagement in schools. A link to 'Visit professional learning module.' is provided at the bottom.

Professional Learning Module example



# Improvements: Metadata

- Collection audience
- Historical time period
- Disciplinary topics and trends
- Important figures, paintings or themes



# Challenges

- Gathering accurate statistics and reconciling the difference between Google Analytics and Digital Commons Dashboard
- Building more readership and quality submissions for journals
- On campus outreach to faculty and students

## Thoughts and Questions?

What tools are you currently using to assess IR statistics and identify overall trends?



Credit: [Alpha Stock Images](#)



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# Resources

“Making Institutional Repositories Work (Charleston Insights in Library, Archival, and Information Sciences)”

bepress (Producer). (n.d.). Bot Shields: Activate! Ensuring Reliable Repository Download Statistics [Video webinar]. Retrieved from

<https://www.bepress.com/webinar/bot-shields-activate-ensuring-reliable-repository-download-statistics/>

Obrien, P., Arlitsch, K., Sterman, L., Mixer, J., Wheeler, J., & Borda, S. (2016). Undercounting File Downloads from Institutional Repositories. *Journal Of Library Administration*, 56(7), 854-874. doi:10.1080/01930826.2016.1216224



# Contact

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