



USG | TCSG Accessibility Symposium

A Georgia Statewide ICT Technical Assistance Center

Tuesday November 1, 2016

Christopher M. Lee, Ph.D. | Department Head
AMAC Accessibility Solutions and Research Center
USG | Georgia Institute of Technology

Statewide Technical Assistance Center

Better Data | Better Decisions



What We Know

- USG Students Annual Report on Access and Services for Students with Disabilities
- Student Accommodation Manager (SAM)
- Digital Textbook Content Accessibility



• What We Don't Know

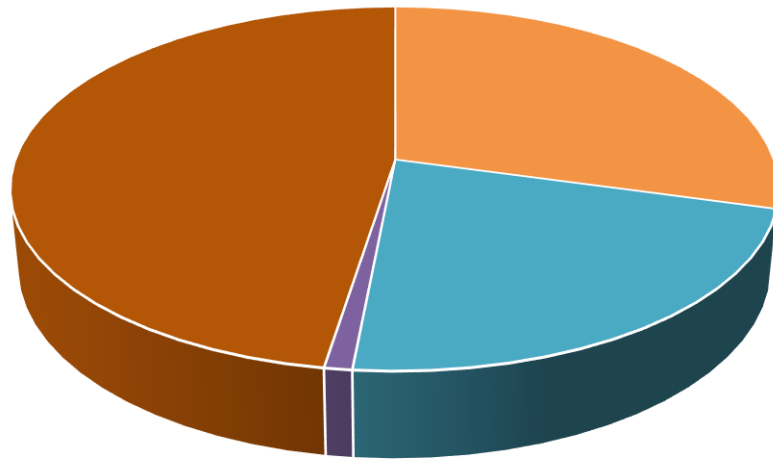
- USG and TCSG | ICT campus policy, policies and best practices
- Facility, staff and campus visitors disability numbers and accommodations

What We Know | Georgia's Post Secondary Institutions



Colleges and Universities

USG Disability Types



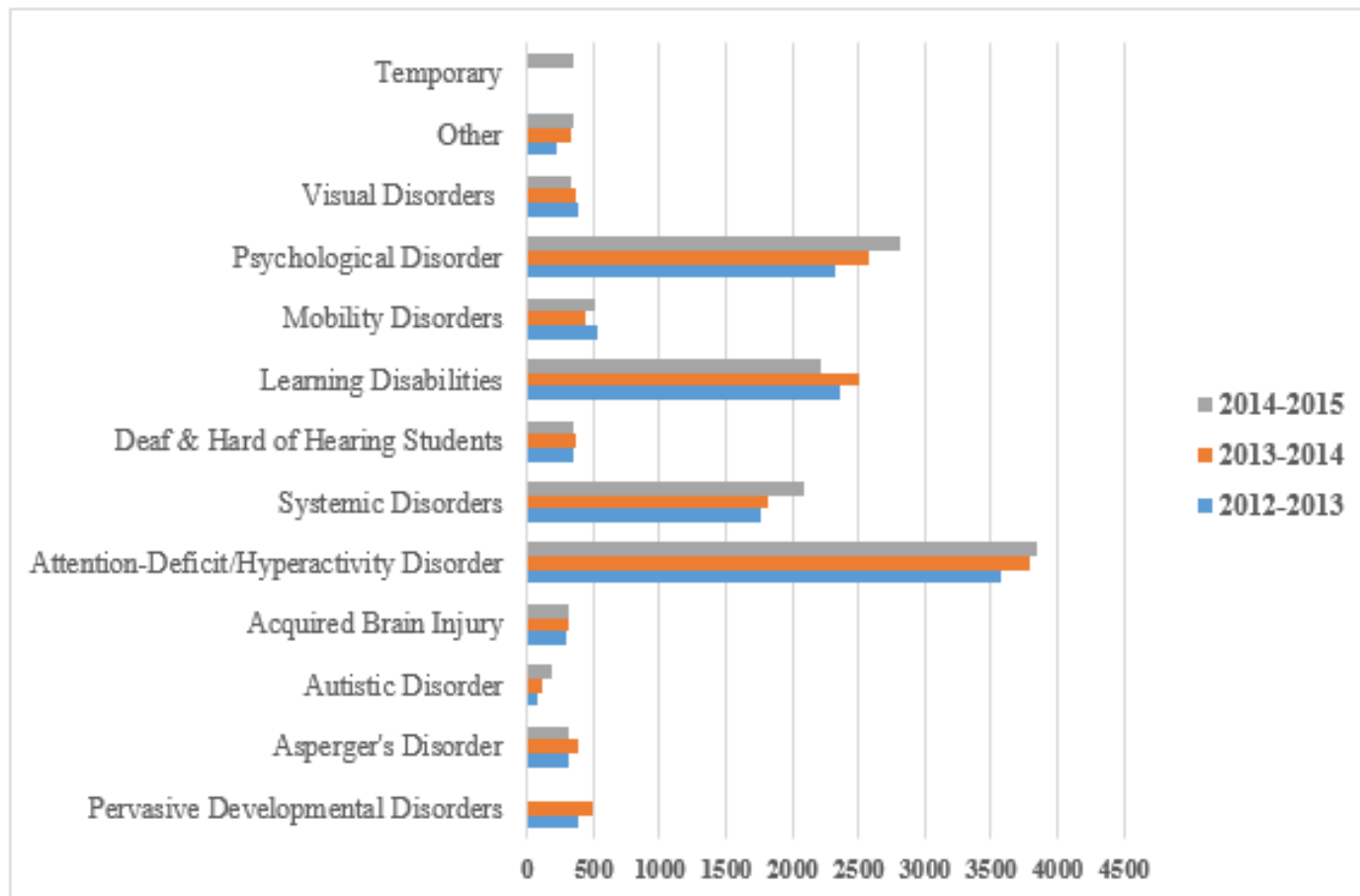
- USG
- TCSG
- Independent
- Private/Other
- Total

Disability Groups	2012-2013	2013-2014	2014-2015
Attention-Deficit/Hyperactivity Disorder	3,581	3,788	3,838
Psychological Disorder	2,319	2,586	2,810
Learning Disabilities	2,366	2,498	2,219
Systemic Disorders	1,768	1,816	2,084
Mobility Disorders	530	433	515
Temporary	NA	NA	355
Other	220	335	343
Deaf & Hard of Hearing Students	349	368	340
Visual Disorders	377	362	327
Asperger's Disorder	307	377	316
Acquired Brain Injury	286	310	309
Autistic Disorder	75	111	193
Pervasive Developmental Disorders	382	488	NA
Total	12,560	13,472	13,649

USG Disability Type



Figure 1. Students Eligible for Services According to Disability Type



Designing for All | Blindness and VI



A Personal Snap Shot | Meet Lakisha

Academic Challenges

- Inaccessible electronic information (i.e. textbooks and e-forms)
- Inaccessible web/database applications (LMS and websites)
- Instructional and resource video's
- Writing notes and completing e-forms
- Building navigation access (Beacon technology)



Solutions | Accommodations Access

- Accessible Digital Content (i.e., textbooks)
- Text- to-speech software (i.e., JAWS/NVDA)
- Braille (i.e. STEM)
- Accessible web applications (i.e., 505 and WCAG 2.0 compliance)
- Video descriptions
- Refreshable braille reader
- Beacon navigation technology



Environment is the barrier, not Lakisha

https://www.youtube.com/watch?v=EkqtisOpe_k

Accessible Digital Content Formats



- **PDF** - files retain the same layout as the print textbook and includes bookmarks for navigation, synchronized highlighting of text and audio. Good option for student who zooms in on the text or needs to change contrast.
- **PDF Enhanced Tagged** - files have renumbered pages and bookmarks, manual tagging of heading levels, paragraphs, lists, and tables. Alternate text descriptions are provided for images. Section 508/ADA Compliant.
- **MS Word Doc** - is best for students who use screen reading software such as JAWS and also need alternative text descriptions added to images.
- **HTML** - files have three levels of headings that provide navigation, reading order is determined, and alternate text descriptions are provided for images.
- **MathML** - files include all the features of our accessible HTML files, plus all equations and symbols are pronounced according to MathSpeak guidelines.
- **PowerPoint** - each slide has a unique descriptive title, all images and tables are fully described, and the reading order is determined for all objects on the slide.
- **Daisy** - files are read by Dolphin EasyReader, which has a wide range of voices. These files have three levels of headings, correct reading order, and alternate text descriptions are provided for images.
- **ePUB** - is a format that can be downloaded and read on devices like smartphones, tablets, computers, or e-readers. It is a free and open standard published by the International Digital Publishing Forum (IDPF).

Digital Content | Campus Production



Table 5. Accessible Material Produced Internally

Material	Estimated Number of Pages								
	2012-2013			2013-2014			2014-2015		
	Textbooks	Exams	Other	Textbooks	Exams	Other	Textbooks	Exams	Other
Electronic Text	177,318	2,887	1,510	272,590	8,489	20,000	298,788	300,624	501,000
Braille	0	7	0	0	505	1,872	0	0	0
Audio	23,673	403	0	17,806	450	0	10,765	357	0
Large Print	1,435	4,920	115	3,605	2,608	2,500	4,811	2,005	1,000

Figure 5 shows the numbers for all accessible materials produced internally in 2012-2013, 2013-2014, and 2014-2015 academic years.

Digital Content | Outsourced Data



Table 6. Accessible Material Outsourced

	Estimated Number of Pages								
	2012-2013			2013-2014			2014-2015		
	Textbooks	Exams	Other	Textbooks	Exams	Other	Textbooks	Exams	Other
Electronic Text	919,003	0	0	2,220,897	237	20	574,877	1	0
Braille	4,647	513	57	2,235	567	185	7,230	325	40
Audio	52,402	2	0	62,439	11	0	113,858	0	0
Large Print	199	0	0	4,714	237	0	0	0	2

Figure 6 shows the numbers for all accessible materials outsourced in 2012-2013, 2013-2014, and 2014-2015 academic years.

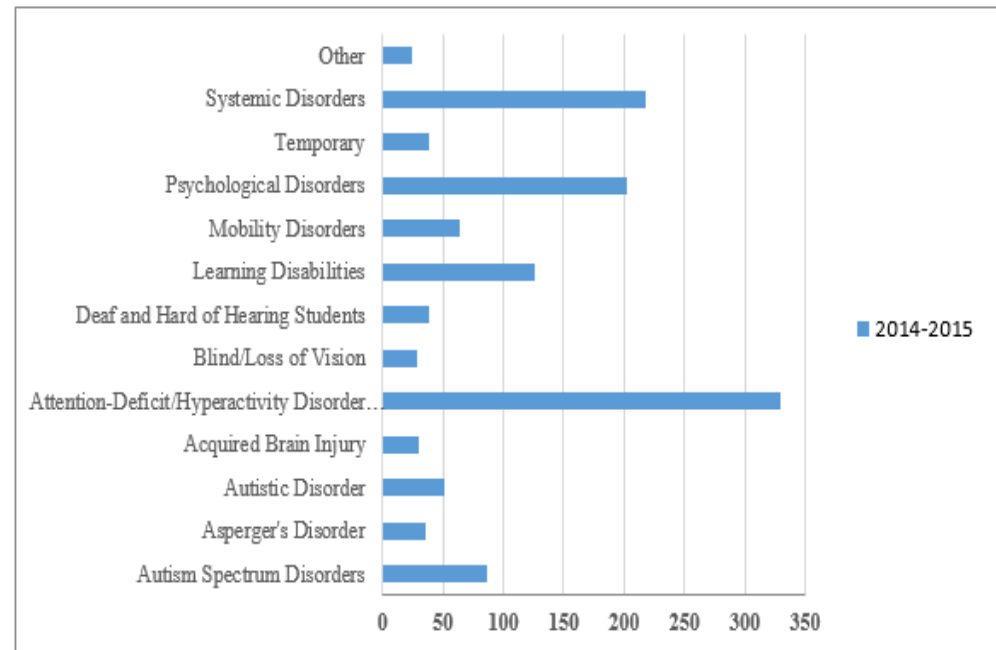
What We Know | USG Distance Learning



- During the 2014-2015 academic year, **69** eligible students were enrolled in distance learning through E-Core and **349** students took E-Core courses who also took campus-based courses.
- Compared with the 2013-2014 results, the number of students taking E-Core and Campus-Based courses increased **46.6%**.

Enrollment Type	2012-2013	2013-2014	2014-2015
Exclusively E-Core	NA	NA	69
E-Core and Campus-Based	316	238	349

Figure 7. Students Taking E-Core and Other Distance Learning Courses by Disability Type



What We Don't Know, and Why We Need A Statewide ICT Technical Assistance Center



What We Don't Know

- **What We Don't Know**
 - USG and TCSG | ICT campus policy, policies and best practices
 - Facility, staff and campus visitors disability numbers and accommodations
- **Touch Points**
 - Academic and Online Courses
 - Web-based Applications
 - Videos
 - Electronic Documents
 - Library Service
 - Video and Web Conferencing Systems
 - Web-based Applications

Solution | A Statewide Center

- Support stronger linkages to K-12 and Vocational Rehabilitation
- Collect better data
- Highlights of best practices
- Recommended accessibility guidelines and vetted tools
- Access to QA user experience testers
- Supports ICT procurement
- Manage joint ICT initiatives
- Network training and technical assistance resources



USG | TCSG Accessibility Symposium

A Georgia Statewide ICT Technical Assistance Center

Tuesday November 1, 2016
Christopher M. Lee, Ph.D. | Department Head
AMAC Accessibility Solutions and Research Center
USG | Georgia Institute of Technology