The **Book**

of

Discoveries along the journey to inclusion

Blackboard®

The Book of Ally: Summary of Sections

Over the last two-plus years, the Ally product team has collaborated closely with the Ally User Community to document the evolving landscape of digital accessibility and inclusion in higher education. This compendium brings together 46 white papers, case studies, and blog posts to represent this journey of a product and community. Sections include:

- Pathways to Inclusion: Stories from the Ally Community
- Blackboard Ally Tour 2019: Tales from the Road
- Inclusive Learning Research Series- Part I: Accessibility Trends | Part II: Regional Impact
- Inclusive Pedagogy: Best Practices for Teaching and Learning

Pathways to Inclusion: Stories from the Ally Community

Chapters one through seven include a series of case studies from our “Pathways to Inclusion” series. Accessibility champions at colleges and universities around the world share why they adopted Ally as part of their campus accessibility solution, their strategies for rolling out Ally in their Learning Management System courses, how they measured impact and success, and their “Pearls of Wisdom” for others getting started on their journey to inclusion education.

Chapter 1: An Ally for Inclusive Practice
with Claire Gardener, University of Derby (U.K.) (May, 2018)

Chapter 2: It Takes a Village
with Jeremy Olguin, Chico State University (U.S.) (June, 2018)

Chapter 3: Climbing the Accessibility Leaderboard
with Debra Padden and Christopher Soren, Tacoma Community College (U.S.) (July, 2018)

Chapter 4: One Foot in Front of the Other
with Pam Warren and Nikki Stubbs, Technical College System of Georgia (U.S.) (August, 2018)

Chapter 5: First Steps to Creating an Inclusive Culture
with Dr. Bryan Berrett and Walt Hebern, Fresno State University (U.S.) (November, 2018)

Chapter 6: Data-Driven Strategies for Inclusive Learning
with Eric Kunnen, Grand Valley State University (U.S.) (December, 2018)

Chapter 7: Improving Digital Learning Experiences with Universal Design and Ally
with the Norwegian University of Science and Technology (Norway) (November, 2020)

Blackboard Ally Tour 2019: Tales from the Road

Chapters eight through 16 include installments from our Ally Tour blog series, which documents our 2019 travels to 51 institutions across 4 continents, 6 countries, and 20 U.S. states. During our stops on the Tour, we interviewed students, instructors, accessibility specialists, and academic leadership to learn more about their accessibility challenges, their campus culture around accessibility and inclusion, and their usage of Blackboard Ally.

Listen to Podcasts
The Ally Tour Podcast

Watch Tour video interviews
https://bit.ly/2Jmhinz

Chapter 8: Our Journey Around the World: Sights and Sounds from the Tour
Summary of insights from the 2019 Ally Tour (December, 2019)

Chapter 9: Rising Up to the Challenge: A Three-Year to a More Inclusive Campus
Visit to Atlantic Cape Community College; New Jersey (U.S.) (February, 2019)

Chapter 10: A Tradition of Supporting Equity and Access in Education
Visit to Lesley University; Massachusetts (U.S.) (March, 2019)

Chapter 11: Equity and Access over Three Generations
Visit to University of California at Berkeley; California (U.S.) (March, 2019)

Chapter 12: Re-imagining Educational Possibilities in Healthcare Education
Visit to Medical University of South Carolina; South Carolina (U.S.) (April, 2019)

Chapter 13: The Road to IncluCity crosses the Atlantic
Summary of visits across the United Kingdom, (U.K.) (May, 2019)

Chapter 14: Mapping New Terrains for Student Learning: The Ally Tour Heads Down Under Summary of visits across Australia (Australia) (September, 2019)

Chapter 15: Community Comes First on the Road to Inclusion
Visit to College of DuPage; Illinois (U.S.) (October, 2019)

Chapter 16: An Evolution in Access through Empathy
Visit to Southern Illinois University, Edwardsville; Illinois (U.S.) (October, 2019)

Inclusive Learning Research Series: Understanding Accessibility Trends and Ally Impact

Chapters 17 through 23 cover white papers from our "Inclusive Learning Research Series." Proceeding from the qualitative case studies and ethnographic research conducted on the 2019 Ally Tour series, this selection of research papers shifts to a quantitative analysis of accessibility data, mined from Ally's Institutional Reports and usage data, from Ally's Alternative Formats and Instructor Feedback with a focus on the 2019-2020 academic year.

Ally Tools Analysis

Chapter 17: Choose your Format: Usage of Alternative Formats of Course Content
Usage of Ally's Alternative Formats by students (March, 2020)

Chapter 18: Tools for Inclusive Course Design: Engagement with Accessibility Feedback
Usage of Ally's Instructor Feedback by instructors (June, 2020)

Analysis by Carnegie Classification

Chapter 19: Accessibility Trends and Usage: Doctoral Universities
Ally usage and accessibility trends at 73 U.S. research universities (March, 2020)

Chapter 20: Accessibility Trends and Usage: Associate's and Technical Colleges
Ally usage and accessibility trends at 150 U.S. community colleges (April, 2020)

Chapter 21: Accessibility Trends and Usage: Master's Colleges and Universities
Ally usage and accessibility trends at 89 teaching universities (December, 2020)

Special Topics Analysis

Chapter 22: Fix your Content Day: An Impact on Inclusion for GAAD

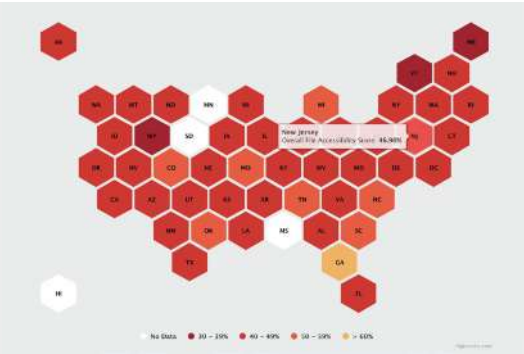
Analyzes results from the Fix your Content Day challenge for Global Accessibility Awareness Day, and how the gamification strategy influenced accessibility practices. (May, 2020)

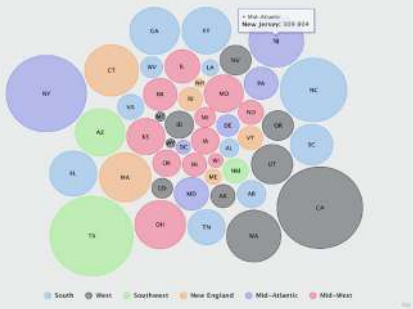
Chapter 23: Discoveries from the Ally Odyssey: The BbWorld20 Sessions

Analyzes five years of accessibility trends from over 500 U.S colleges and universities, and Ally usage data over two years. Explores relationships between Ally usage and accessibility progress, as well as the impact of the COVID-19 pandemic on accessibility. Findings were originally presented at the BbWorld 2020 annual conference. (July, 2020)

Inclusive Learning Research Series: State and Regional Impact Papers

Chapters 24 through 40 includes a subset of the Inclusive Learning Research Series focused on regional Ally adoption and impact during the 2019-2020 academic year. Each chapter includes adoption numbers, accessibility scores and critical issues, Alternative Format downloads, and Instructor Feedback engagement by state or region.





State-by-state data visualizations illustrate accessibility trends and Ally usage and adoption by state at: (July,2020) ally.ac/research

Chapter 24: Impact across the Sunshine State; Florida (March, 2020)
Chapter 25: Impact across the Buckeye State; Ohio (April, 2020)
Chapter 26: Impact across the Tar Heel State; North Carolina (May, 2020)
Chapter 27: Impact across the Lone Star State; Texas (June, 2020)
Chapter 28: Impact across the Golden State; California (July, 2020)
Chapter 29: Impact across the Empire State; New York (Aug., 2020)
Chapter 30: Impact across the Midwest; Michigan, Illinois, Indiana, Wisconsin (Aug., 2020)
Chapter 31: Impact across the DMV; D.C., Maryland, Virginia (Oct., 2020)
Chapter 32: Impact across the Garden State; New Jersey (Nov., 2020)
Chapter 33: Impact across the Mountain West; Utah, Colorado, Idaho, Wyoming (Dec., 2020)
Chapter 34: Impact across the Evergreen State; Washington (Dec., 2020)
Chapter 35: Impact across the Sunflower State, Kansas (Dec., 2020)
Chapter 36: Impact across the Yellowhammer State; Alabama (April, 2020)

International

Chapter 37: Impact across the United Kingdom (May, 2020)
Chapter 38: Impact across Ontario (May, 2020)
Chapter 39: Impact across the ANZ; Australia, New Zealand (August, 2020)
Chapter 40: Impact across the Middle East; Saudi Arabia, Egypt, UAE, Bahrain (Dec., 2020)

Inclusive Pedagogy: Best Practices for Teaching and Learning

Chapters 41 through 46 include a series of articles that move beyond the Ally toolset to provide a broader framing of inclusive pedagogy. Authored by instructors, chapters draw from diverse teaching frameworks and strategies to help foster a sense of belonging and inclusion in online and blended learning context. The compendium concludes with a student blog by Veronica Lewis that details how students with low-vision can benefit from using Ally's Alternative Formats.

Chapter 41: Three Ways to Stay Connected when Learning Remote
Dr. John Scott shares practical strategies for designing more accessible distance learning experiences. Originally published in eCampus News (April, 2020)

Chapter 42: Fostering Inclusion and Belonging for First-Generation Learners Overview of challenges faced by first-generation college students and how inclusive design strategies can help address those challenges (June, 2020)

View the eCampus News presentation: https://tinyurl.com/eCampusFirstGen

Chapter 43: Inspiring Connections for Relevance and Belonging in Online Learning Dr. John Scott discusses how he used "Inspire Activities" at U.C. Berkeley to make content culturally-relevant and foster a sense of belonging and inclusion (September, 2020)

Chapter 44: How to Promote Inclusion and Engagement through Team-Based Learning
Dr. Tendai Charles of the British University in Dubai shares how he uses the Team-Based Learning framework to generate peer dialogue and discovery (Octo: ber, 2020) **Chapter 45: Breaking for Belonging: Empowered Inclusion**
Dr. Sean Turner, who teaches at-risk high school students and teacher education courses at the City University of New York, shares how he employs the "problem-posing" model to empower students to break things in fostering a sense of belonging (December, 2020)

Chapter 46: Student Blog- Using Blackboard Ally with Low Vision
Veronica Lewis, undergraduate student at George Mason University, shares how she uses Alternative Formats to support her vision needs. Originally appeared in her blog: **Veronica with Four Eyes**: https://veroniiiica.com/ (November, 2020)

The **Book** of

Pathways to Inclusion: Stories from the Ally Community

Blackboard

Pathways to Inclusion

Stories from the Ally Community

An Ally for Inclusive Practice

with Claire Gardener, University of Derby

University context: **"Strategies for Success"**

The University of Derby is a TEF Gold University in central England with over 17,000 students enrolled in 300+ programs of study. As part of our commitment to student success, we have made a focused effort to ensure that our teaching experiences are inclusive and equitable for all our students. Recognizing the diverse needs and circumstances of our students, Derby's inclusive learning initiative aims to provide more accessible, supportive environments for students to learn independently both inside and outside the classroom.

Learning space at Derby's "The Learning Curve"

Goals for Ally: **Support Inclusive Learning**

Based on the Technology Enhanced Learning (TEL) Strategy, Derby introduced the "Digital Practice Programme Baselines"* as a framework to benchmark practice and support enhancements to the student digital learning experience. The Baselines contain a self-review form completed annually by Programme Leaders/Teams to help track progress and implement strategies for improvement. The baselines also include a section on inclusivity, which asks lecturers to document a consistent approach to creating and reviewing their course content accessibility.

> **We saw Ally as a tool that could support our inclusivity initiative**

Resources

*Learn more about our "Digital Practice Programme Baselines" which received the Blackboard Catalyst Award for Teaching & Learning 2018:

- Derby's Learning and Teaching Strategy
- In the sector: Jisc NUS Benchmarking tool
- University of Derby Digital Practice Handbook

Using Ally's institutional report, we could more easily track our accessibility progress at the individual course and campus levels. For example, we were able to identify some positive trends over the past several years, as well as areas on campus where we were having success, such as our online programs that used course templates authored by instructional designers. We also saw Ally's instructor feedback as an intuitive way for our lecturers to become more aware about accessibility issues in their courses and to assist them in improving their content. To aid this effort, our Learning Technologists team worked through Ally's feedback to familiarise ourselves with Ally features in preparation for workshops and lecturer questions.

Implementation Strategy: **Communications and Workshops**

After testing in 10 modules, we moved to release Ally across the University, which took around two weeks to implement across our platform, including both current and historic programmes and modules. Although we had some anxieties about the reactions of staff to the Ally indicators, we devised a clear messaging strategy to contextualise the purpose and goals of Ally for our lecturers. We provided them with a point of contact in the Technology Enhanced Learning office, and added Ally help guides to our Digital Practice Handbook to complement our existing materials on accessible course design.

In our email communications with lecturers, we emphasised that the Ally indicators were only visible to them, and that Ally was a tool to support their inclusive learning benchmarks. We set manageable expectations for lecturers in our communications by making clear that they were not required to fix their content issues all at once.

Prior to Ally, our office hosted a "Using Technology for Inclusive Learning" workshop as part of the inclusivity initiative. With Ally, we introduced an Ally-specific workshop for lecturers, but found the "Using Technology for Inclusive Learning" workshop was better attended, perhaps because it was more familiar and tied to the campus inclusivity initiative.

> **Instead, we encouraged them to use the Ally feedback to think about small changes they could make to their content, and to contact support for issues they could not address on their own**

Evaluation and Findings: **We improved!**

The day of launch, we expected the phone to ring off the hook with questions, but we only received one call from a lecturer. Even though our messaging did not demand lecturers take any immediate steps to remediate their course content, we saw a 3% gain in our overall accessibility in just 2 months. The Ally launch has also catalyzed more conversation about inclusive learning design, demonstrated in the increased attendance for our "Using Technology for Inclusive Learning" workshop.

Screen shot from "Inclusive Practice" support page

We see Ally helping raise awareness for lecturers about the value of accessible, alternative formats to student success. We are also finding that Ally is helping us more accurately benchmark our content accessibility progress and inform our accessibility strategy across the University. We are in the process of designing lecturer and student surveys for more detailed feedback about accessibility, their Ally usage, and our support structures. Our biggest challenge will be keeping the conversation going and scaling our efforts as we move to address more complex accessibility and inclusive learning issues in the virtual learning environment.

Pearls of Wisdom: **Start with Awareness**

We view inclusive education as a culture shift that starts by raising awareness about the barriers that prevent students from equitable, inclusive learning experiences. By situating Ally as part of a broader campus initiative around inclusive learning, we were able to better communicate to lecturers the purpose and expectations about how they used Ally. This helped ease their anxieties, spark conversation, and drive programmatic strategy for change.

Pathways to Inclusion

Stories from the Ally Community

It Takes a Village

with Jeremy Olguin, Chico State University

University context: **Nurturing Diversity**

Chico State is one of 23 campuses in the California State University (CSU) system, and serves a diverse population of over 16,000 students from California and the world. Chico is a point of access into higher education for many first-generation college students and English language learners. Our team at the Office of Accessible Technology and Services (OATS) along with Information Resources (IRES) have been working together to improve student access to inclusive learning environments in support of our Graduation 2025 Initiative.

Goals for Ally: **The Accessible Technology Initiative**

The Accessible Technology Initiative (ATI) is a system-wide effort to improve accessibility at the CSUs. One of ATI's key pillars cites the importance of representing learning content in different modalities and formats that suit the needs of diverse learners, as described in the Universal Design for Learning (UDL) guidelines.

Accessibility Resource Center Staff "Moving Forward" Initiative

> **The CSUs adopted Ally as part of their effort to address content accessibility issues, and to bolster our commitment to advancing UDL principles in our teaching with Ally's "alternative formats."**

We knew based on our institutional report that we would need a programmatic approach that could maximize our resources to support our instructors address the accessibility issues with their course content flagged by Ally. We wanted to make sure to address two areas in our strategy: 1. How do we prepare and support instructors when the Ally indicators appear in their course? 2. How will our team (2 staff, 15 student assistants) handle a potential increase in requests for content remediation?

Implementation Strategy: **Dividing up the Labor**

We designed a 4-phase campus roll-out of Ally, beginning with a small group of 11 faculty and gradually scaling to a full-campus release after a period of 18 months. We took a very hands-on approach in the early phases of the pilot, using the institutional report to assess the accessibility levels of each course, and then communicating a personalized remediation plan to instructors. The plan included a list of "low hanging fruit" items instructors could fix on their own using Ally, such as adding alternative descriptions to images, and a list of items that our t eam would fix for them.

To effectively scale our support, we developed a 2-tier ticketing system that allows us to better manage how we handle remediation requests. When an instructor requests support for an accessibility issue that can be fixed within Ally, a tier-1 ticket is assigned to the instructor's point of contact, who guides them through the issue. When a file requires more complex

Instead of taking a reactive position, we used the institutional report to help inform our pilot strategy: Start small and scale up."

work, a tier-2 ticket is assigned to our remediation team. Each tier-2 content item is added to a Box folder, where we can track the time it takes for us to produce an accessible version. This allows us to better approximate our turnaround time when assessing future courses.

Evaluation and Findings: **Students Benefit Directly**

Once students were exposed to the alternative formats, we began receiving requests from students and instructors to turn on the alternative formats in their other courses. One instructor forwarded us a lengthy email from a student requesting access to the alternative formats. The student, a mother who commuted to campus, explained how access to the audio formats allowed her to listen and review course materials on her commute to class. Sharing anecdotes like these with instructors in our communications has helped drive home the value of accessible content to student success. Our remediation team has also found that Ally's HTML alternative format can be a useful resource for content remediation, as our team will often use the HTML as a more accessible starting point that can be remediated more quickly than the original PDF.

As we prepare for the final phase of our Ally roll-out, we want to ensure that our communications reach the necessary voices across campus so that instructors new to Ally are aware about its role within the CSU accessibility initiative and how it can benefit student success. We are also planning to promote the alternative formats provided by Ally through a student campaign during our campus "Welcome Week."

With Ally, we've been able to organize a more efficient system for handling content remediation requests that I estimate has reduced remediation time by 25%."

Pearls of Wisdom: **Think Sustainability**

When we first opened our institutional report, the accessibility challenges in front of us seemed overwhelming. We tracked each stage of our implementation, including our communication and remediation workflows, to help optimize those processes as we introduced Ally across the campus. Most importantly, we've made Ally part of a concerted effort to re-connect key stakeholders and voices at Chico and the CSUs in forming a collaborative effort to help make our campuses more inclusive- because it truly takes a village!

Resources and Examples

Faculty Communications Example

Student Communications

Ally Support Ticket Request

Accessing Higher Ground Presentation

"How Technology Helped Chico State Automate Its Way to Accessibility" – eLearn Magazine

Pathways to Inclusion

Stories from the Ally Community

Climbing the Accessibility Leaderboard

with Debra Padden and Christopher Soran, Tacoma Community College

College context: **Accessible and Affordable for All**

Nestled on the Puget Sound in the state of Washington, Tacoma Community College (TCC) serves over 11,000 students annually. We offer a range of degree-based programs, continuing education opportunities, and over 30 vocational and technical programs. In support of TCC's Strategic Vision for more equitable and inclusive learning environments, our eLearning Office prioritizes the use of accessible, affordable digital content. Through our help desk, Instructional Designer & Open Educational Resources (OER) coordinator, and multimedia team, we aim to provide students and professors with innovative learning tools and high-quality support.

Goals for Ally: **Options for Engagement**

Prior to Ally, our eLearning offerings included several digital tools that gave students some increased choice and flexibility in how they engaged with their course content, such as the option to listen to text. We found not only did students with disclosed disabilities benefit from using these kinds of tools, so too did many English Language Learners and commuter students. Yet we also felt there were some gaps in functionality with our existing toolset that limited their potential impact on accessibility and student success. With Ally, we saw a product that could both enhance student access to a greater variety of alternative formats downloaded direct from course files or modules, and increase professor awareness about the value of accessible content for all students.

> **With Ally, we saw a product that could both enhance student access to a greater variety of alternative formats direct from course files, and increase professor awareness about the value of accessible content for all students.**

When we inquired about Ally, we discovered the Washington State Board (SBCTC) was also looking at adopting Ally for their 34 community and technical colleges as part of a state-wide commitment to the 2016 Accessible Technology Policy. With accessibility becoming more of a priority, we saw Ally as a tool to spark the conversation with professors about the importance of accessible, open content, and for our eLearning office to take some strategic steps to support faculty in making their courses more inclusive.

Implementation Strategy: **Gamifying Accessibility**

To organize our course review process and help professors keep track of their accessibility improvements, we designed an accessibility checklist. The list included formatting of HTML content, formatting the syllabus, adding captions to video content, and checking the accessibility of course files and documents using Ally. In an effort to help professors with their content, we used Ally to train our eLearning staff on how to correct issues, since some had limited experience with

Accessibility Resource Center Staff "Moving Forward" Initiative

Through a collaborative, committed effort across our campus, our institutional report shows our overall accessibility score increased 31 points in a single month with the help of Ally!

Workshop conducted by Christopher Soran, Director of eLearning

accessible document authoring. Leading up to our campus-wide roll-out of Ally, we posted announcements on the front-page of our Canvas environment, sent email blasts, and introduced Ally at workshops.

We also wanted to incentivize our professors to participate and bring some fun to our accessibility initiative, so we thought, "Let's gamify it!" We assigned point values to each of the checklist items- like 25 points for having an accessible syllabus, 25 points for captioning all videos in the course, or 100 points for having a completely accessible course. [See "Gamification Structure" for full list] We awarded professors prizes when they reached certain point totals, and even created a campus leaderboard that displayed professors' total points to inspire some friendly competition.

Evaluation and Findings: **Motivated Professors Make Improvements**

When we rolled-out Ally to the campus, professors responded positively to the indicators, which allowed them for the first time to see a detailed view of their file accessibility. The indicators prompted professors to seek out help from our office with issues they couldn't solve on their own, and we were able to accommodate those requests because of our staff trainings and the time saved with the Ally feedback and reporting. We also found professors generally enjoyed and were motivated by the leaderboard and prizes, which we were able to moderate using Ally to determine if professors no longer had any red or orange indicators next to their active course files.

Ally has quickly become integral to how professors design their courses, and how our eLearning office supports them when they need assistance. By helping spur the accessibility conversation between our eLearning teams and professors, we've even been able to use Ally to support our OER initiative by encouraging professors to exchange their inaccessible copyrighted content with accessible OER content and linking to accessible library database resources. Through a collaborative, committed effort across our campus, our institutional report shows our overall accessibility score increased 31 points in a single month with the help of Ally!

We also wanted to incentivize our professors to participate and bring some fun to our accessibility initiative, so we thought, "Let's gamify it!"

Pearls of Wisdom: **Focus on Student Impact, Make it Fun**

Although legal requirements and state policies can drive campuses to take action, the pathway to inclusion doesn't have to be scary or uncertain for professors. Focusing on the myriad ways accessible content can benefit all students- such as in making courses more mobile friendly for students who may not have consistent access to a computer- can help professors recognize the value of accessible content to student success, and can inspire them to take a more proactive approach to making improvements. Combining a tool like Ally with the proper support structures while infusing some fun into the process, we can motivate and empower professors to make inclusive design a priority in their teaching.

Resources and Examples

Accessibility Checklist

Gamification Structure

Ally Tool Evaluation Survey

Ally Instructor Video

Student Communications

Pathways to Inclusion

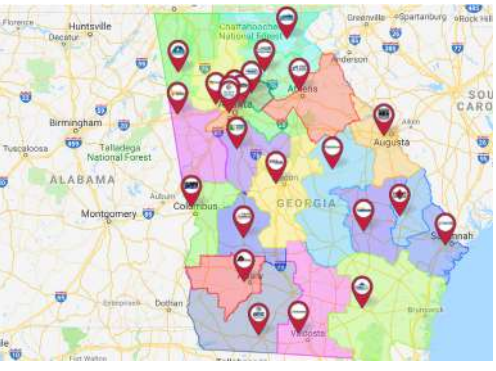
Stories from the Ally Community


One Foot in Front of the Other

with Nikki Stubbs and Pam Warren, Technical College System of Georgia

University context: **Answering Workforce Needs**

Comprised of 22 colleges spanning 85 locations, the Technical College System of Georgia (TCSG) is an engine for career advancement and workforce development, with 98% of our 27,000 graduates last year finding employment or continuing their education. As part of our mission to increase student access to affordable, high quality learning and training, our HOPE Career Grant provides free tuition for eligible students who enroll in a program related to one of Georgia's strategic industries. Our curricula and standards align with business and industry requirements while our partnerships with Georgia's four-year universities and colleges offer seamless transitions for students who wish to further their academic pursuits.



Map of TCSG's 22 colleges across the state of Georgia

Goals for Ally: **Establish a Sense of Direction**

Our team at the Georgia Virtual Technical Connection (GVTC) works with all 22 of our colleges to help them enhance their online offerings and improve their use of digital tools. Following an initial effort by the colleges to address the accessibility of their websites, we began taking some first steps to support the colleges in fixing accessibility issues with their course content, focusing on five high-impact areas: Images, Styles, Content organization, Links, and Color. As we anticipated, helping instructors fix their accessibility issues required more than just emailing them a checklist and pointing them to the WCAG standards, but it got the conversation started.

Just a few months after beginning our initiative, the US Access Board published their 508 Refresh requiring campuses to meet digital accessibility compliance by the end of the year. Needless to say, this induced some panic among instructors, who under pressure by such a mandate may have considered changing the format of their course environment. We needed tools to help us make strategic sense of the challenges in front of us and better support instructors. And that's when we discovered Ally.

> **We believed Ally would help move instructors out of the dark, and provide them the insights to take a more iterative approach to improving one content item at a time.**

Implementation Strategy: **Be Better Today**

For our team at the GVTC, establishing consistent messaging and creating robust training resources for our colleges was essential in preparing for our Ally roll-out. Collaborating with our "Points of Contact" (POCs) at each of the colleges, we used a train-the-trainer approach to model instructor communications about the purpose of the Ally indicators, stressing that instructors didn't need to fix everything at once or start deleting content from their courses.

We wanted to be clear: The goal is not to be perfect by the end; the goal is to be better today.

We created modules and courseware that covered accessibility and Universal Design for Learning in our training resources, focusing on the ways that accessible content could benefit the learning experiences and outcomes of all students. We took advantage of existing Blackboard resources to design our training content, and increased our presence at faculty development and consortium meetings. To help instructors overcome misconceptions that accessible content had to be boring content, we adopted Thomas Tobin's "plus-one" approach, which encourages instructors to provide students an alternative for content that may have accessibility issues.

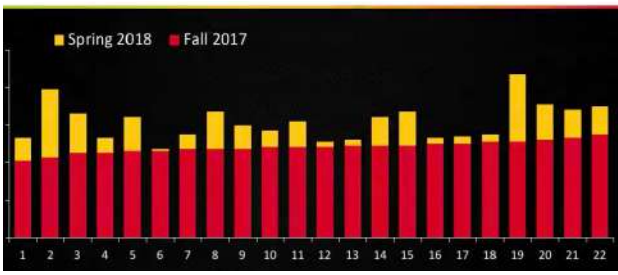
guided. Even a few instructors who were initially resistant to the accessibility mandates were pleased to have access to a tool that brought transparency to the process.
Each of the colleges owned their Ally roll-out strategy, allowing us- from a system perspective- to analyze what initiatives yielded the best results. Their institutional reports revealed positive increases in accessibility scores across all 22 colleges, with two schools seeing increases of over 36% in a single term!
One college's distance learning office sent out weekly tips and tricks to instructors, focusing on a single issue explained in a one-page micro-learning guide.

I have discovered that once you change your mindset to an all-inclusive learning environment, it is exponentially easier to create instructional materials than doing things the old way" - Instructor

Evaluation and Findings: **Models for Success**

We implemented Ally across all 22 colleges the same day, and the results were illuminating. While there was indeed a mountain of content remediation work in front of us, Ally provided the essential "whys" and "hows" about accessibility to instructors within their course, making the process less intimidating and more

The other college established an internal goal of reaching 90% accessibility in all courses, and prioritized their remediation support, beginning with courses that had students with disclosed disabilities. The college also implemented a mandatory accessibility training course for instructors, and used a "master course" model to signify courses had reached 90% accessibility.



Graph showing varying levels of improvement in Ally accessibility score across the 22 colleges.

Pearls of Wisdom: **Slow your Roll**

When facing a mountain of inaccessible content, trying to scale the steepest slope and fix everything at once is likely to result in a lot of resistance and frustration. Instead, design a path that matches your strengths and that takes advantage of available resources- like the Ally Communications and Adoption Toolkit- to support your journey. Watching best practices emerge over 22 Ally roll-outs, we've found that colleges can make significant progress on their accessibility scores by taking a patient, iterative approach to fixing content issues. To pave an easier path for our colleges, we're refining how we track progress and Ally usage so that we can be more responsive to instructor needs as they take the next steps in their inclusive learning journey.

Resources and Examples

BbWorld Session and Slides

Bb Ally Campus Intro

Accessibility Checklist: Universal Design

Accessibility Checklist: ADA for Online Courses

Pathways to Inclusion

Stories from the Ally Community


First Steps to Creating an Inclusive Culture

with Dr. Bryan Berrett and Walt Hebern

University context: "Empowering Student and Faculty Success"

Located in California's Central Valley, California State University, Fresno provides higher education opportunities to over 22,000 students from diverse cultural and linguistic backgrounds. As part of our campus-wide commitment to ensuring equitable and inclusive learning environments for all students, our Center for Faculty Excellence (CFE) supports faculty use of new technologies to improve their teaching and learning. Our work with faculty intentionally creates opportunities to build awareness as well as strategically provides trainings to increase their knowledge and ability to remediate course materials.

Goals for Ally: **Designing Change Processes**

Becoming a more inclusive campus requires more than just fixing the accessibility issues in course files. It requires a cultural shift, where faculty begin building universal design for learning principles and accessibility best practices into their courses from the start. In working to drive this culture change at Fresno State, we adopted Ally as a tool to help faculty identify and resolve accessibility issues within their courses as well as to observe firsthand how accessible content allows for high-quality alternative formats that can benefit all students. Crucial to these change processes, the CFE has been building an atmosphere of support and trust with the faculty over the past three years.

In organizing our Ally pilot, we wanted to learn the most effective processes for modifying existing materials and educating faculty on creating accessible files. To support best practices, we have emphasized universal design for learning, self-efficacy, and inclusion in our conversations with faculty. We also wanted to gather feedback from students about their alternative formats usage and their satisfaction with the quality of the formats. Having an executive sponsor in academic affairs has also been an essential component of our communication plan.

Implementation Strategy: **Documenting Progress**

43 courses participated in the Spring 2018 pilot, during which, we carefully documented time spent on file remediation, fine-tuned our professional development efforts, and developed collaboration across teams.

> **Ally provides a platform from which we can launch conversations with faculty about the ease with which they can begin making changes in their course materials and pedagogy that can significantly impact student success."** Dr. Dennis Nef, Vice Provost

During workshops, we used the analogy of a lifeguard with binoculars monitoring the safety of the water to explain the purpose of Ally's colored indicators in monitoring the accessibility of the learning environment. We highlighted

Henry Madden Library at California State, Fresno, home of the Center for Faculty Excellence

By supporting instructors to remediate accessibility issues with their course files, we found 50% of the pilot courses were successfully modified in under four hours."

the automatic creation of alternative file formats as additional resources all students could use to better access course content- a key principle of UDL.

In preparing for our pilot, we also participated in several Blackboard accessibility service engagements, including a train-the-trainer workshop to help inspire ideas for professional development and a strategy consultation to help develop a communications plan. Gathering feedback about our ideas and processes brought the various elements of our strategy into focus to reveal a comprehensive campus effort, from leadership to student success.

Evaluation and Findings: **Change is possible (and complex)**

In our survey to students enrolled in the pilot courses, we found that of the students that accessed the alternate file formats , 89% were either extremely satisfied or somewhat satisfied with their alternative format downloads. Although students reported that poor mobile access was one of the most common barriers to content access, there were students who did not use the formats during the pilot, in part because they were unaware they were available. Students also pointed out pedagogical barriers to content, such as poor course organization.

Using the CSV exports of Ally's institutional reports to establish a course's accessibility baseline, we tracked improvement to the file issues over time and observed the average accessibility score increase from 38% to 77% for the 43 courses. For course files, it took between five minutes to over an hour to fix accessibility issues, with scanned PDFs taking the longest. We also identified files that could not be made accessible without compromising their meaning for others, such as infographics, or files that require more complex solutions, such as musical notation.

By incorporating Ally and UDL into our training, we are also observing instructors take a more proactive approach to accessibility. Compared to the 67 summer courses that began with an average accessibility score of 50%, the 58 courses currently being redesigned by our trained DISCOVERe faculty are starting with an average accessibility score of 67%. With Ally training in place, 60 new faculty have a total of 171 courses with a starting average accessibility score of 75% for Fall 2018.

Pearls of Wisdom: **Make Accessibility an Everyday Practice**

Ally and inclusive course design are now built into the onboarding process for our new faculty, which includes six days of training and the option for two additional days of learning. We want accessibility practices to become a natural part of every instructor's course design workflow, so that when they are adding headings to a document or alt-text to an image, they are thinking about these steps as an essential part of delivering students a high-quality, personalized learning experience. In order to create cultural change, you first need a deep insight into the existing culture, and our efforts at the CFE to recognize faculty needs has helped develop that understanding and trust. Using your Ally pilot to learn about faculty beliefs and skill levels in accessibility, as well as to analyze and refine your content remediation processes can help you begin to plant the seeds for such a cultural shift, where instructors no longer see accessibility tasks as chores, but as essential practices for student learning and success.

Ally provides Fresno State with an excellent tool that moves us beyond ADA compliance and on a path to universal design. The many alternative formats available through Ally provide students with excellent options to access course materials." Dr. Rudy Sanchez, Interim Associate Vice President for Faculty Affairs

Resources and Examples

Accessibility for All

Fall 2017 Ally Pilot Report

Spring 2018 Ally Pilot Report

Ally Campus Workflow

Ally

Blackboard

Pathways to Inclusion

Stories from the Ally Community

Data-Driven Strategies for Inclusive Learning

with Eric Kunnen, Assoc. Director, eLearning & Emerging Technologies

University Context: **Pillars for Inclusion and Equity**

Recently acknowledged as one of the top public regional universities in the Midwest by *U.S. News and World Report*, Grand Valley State University (GVSU) has made a committed effort to providing nearly 25,000 students with a more inclusive campus through a variety of programs and initiatives. The University's vision and value statements highlight the commitment to providing an inclusive learning environment for all students. The Division of Inclusion and Equity coordinates an ADA Advisory Council that includes student, faculty, and staff representation who meet throughout the year to discuss strategies to better support members of the campus community with disabilities. Each year, the campus hosts a Teach-In focused on discrimination issues related to race, ethnicity, gender expression, sexual orientation, ability, and class to encourage campus conversations around the importance of inclusion and equity.

Grand Valley State University's (GVSU) Mary Idema Pew Library Learning and Information Commons

Goals for Ally: **Awareness, Capacity, and Insight**

Distance education continues to expand at the university with more than 5,000 enrollments in online and hybrid courses each semester. Further, GVSU is seeing increases in the use of open educational resources, along with continued adoption of digital instructional materials by nearly 1,800 faculty. These demands along with more emphasis being placed on ADA compliance, has caused unique challenges for the eLearning and Emerging Technologies and Disability Support Resources (DSR) offices who are charged with supporting faculty and the learning needs of students. Accessibility support is focused on the 1,600 GVSU students, faculty, and staff who have registered with the DSR office; however, ensuring all students have equal opportunities for success in digitally-mediated learning experiences has become a key priority for the campus. GVSU's Academic Senate established an Accessibility Task Force to investigate the existing accessibility impediments that faculty and students face, and to make recommendations for collaborative decision-making on accessibility matters, such as in drafting Captioned Media Guidelines to support the University's web accessibility policy.

> **Ally's indicators are the initial introductions to understanding a much larger cultural shift- a shift away from the idea of meeting a standard required by law to a more equitable accomodation for all. In a broader sense, they signify that there is work to be done by all of us at the university to help create pathways of inclusion. – Hunter Bridwell**

To address accessibility issues with course files, Ally was adopted with three goals in mind: 1) increase instructor awareness about the importance of accessibility and Universal Design for Learning (UDL) for all students; 2) build capacity of faculty to create accessible content; and 3) improve insight at the institutional level to help ensure course content meets accessibility standards.

Implementation Strategy: **Targeted Messaging and Support**

After spending two months implementing Ally and preparing our roll-out strategy, Ally became available to all faculty and students on June 21, 2018. Rolling-out Ally in the summer enabled us to start with

To date, students have downloaded over 6,800 alternative formats in 1,150 courses, and we share these data with faculty and administrators to help demonstrate Ally's impact on the student learning experience.

a smaller number of courses to better gauge faculty response and refine support and training efforts. Initial messaging included targeted email newsletters, social media and blog highlights, and a Blackboard Learn portal module promotion campaign. Ally and Panopto (which supports closed captioning for video) were promoted as part of the new faculty orientation for the first time in the Fall 2018 semester. Further, these applications are included in a required training for faculty new to online teaching.

Using our institutional report, we identified our three most prevalent accessibility issues: missing document headers, images without alternative descriptions, and documents with contrast issues. We created tip sheets and training to target those specific issues as a supplement to the Ally instructor feedback. We also distributed a survey to instructors early on in our rollout to gather feedback to better understand how faculty were responding to the Ally indicators in effort to improve our support efforts and messaging.

Next semester, the team plans to use Ally's reporting and usage data to spark a friendly competition between departments, where the department with the most improvement will receive a small student scholarship in their name to celebrate their committment to inclusive learning.

Evaluation and Findings: **Demonstrating Impact with Data**

Persistent messaging efforts around Ally's alternative formats for students has helped create a buzz on campus, and recently the student newspaper ran a front-page article entitled: "Blackboard Ally provides resources to improve accessibility." As a result of this increased awareness about the benefits of accessibility to all learners, we have seen an increase in faculty attendance of our accessibility and UDL workshops.

Ally usage data have also helped inform our campus messaging campaigns. Since our summer launch, instructors have engaged with Ally indicators 3,100 times in over 1,200 courses, and 138 instructors made fixes to over 460 files. With course information available in the institutional report, we engaged faculty who improved their course files and shown a commitment to inclusive learning. Moving forward, the eLearning and Emerging Technologies team is offering assistance and encouragement to faculty for implementing UDL principles in their courses.

Pearls of Wisdom: **A Scalable Solution**

Trying to affect change and scale the impact of a new technology on a campus with nearly 25,000 students and 1,800 faculty demands a strategic, creative approach. When it comes to accessibility of course content in Blackboard, detailed information about existing issues and progress can be hidden from view, often leading to an "out of sight, out of mind" mentality. Without accessibility information, designing and implementing effective strategies can be even more challenging. With Ally's accessibility insights and usage reporting, GVSU can more effectively leverage data to both inform outreach efforts and to demonstrate impact to drive further adoption, creating a feedback loop that is both sustainable and scalable. Showcasing tangible results through alternative format downloads and instructor fixes, and embedding those results in creative messaging that reaches across the multiple channels of a large institution, can help build momentum on the pathway to a more inclusive campus for all students.

Resources and Examples

Ally in the GV Lanthorn

Ally Supports Inclusive Education

GVSU Ally Website

Blackboard

Improving Digital Learning Experiences with Universal Design and Blackboard Ally at the Norwegian University of Science and Technology

Integrating Universal Design: Choice, Flexibility, and Usability

Imagine for a moment, you are a student studying for an important exam. You have been reading on your screen for hours. Your eyes are growing fatigued, your head is beginning to ache, but you still need more time to review. What if you were able to continue your studies by listening to your text in an audio format to give your eyes a break while you engage the content with a different sense and activate a different part of your brain?

Such an experience is made possible through a learning experience guided by universal design principles, which emphasize providing all students with choices to engage with their learning materials in ways that meet their unique needs. Although many people associate universal design with legal requirements to provide access to physical spaces for people with disabilities, universal design aims to improve the quality of both physical and digital experiences for all people. Universell, the National Coordinator of Accessibility of Higher Education in Norway, explains:

Norwegian University of Science and Technology (NTNU) campus

Getting Started with Blackboard Ally

When NTNU enabled Ally in their Blackboard Learn system, administrators and academic leaders gained an immediate understanding about barriers to universal access in the digital content uploaded by instructors in their courses. Through Ally's Institutional Report, NTNU could begin to identify areas across the institution with severe accessibility issues that could impact students with disclosed disabilities, such as students who use a screen reader or other forms of assistive technology. Consider, **Ally checked the accessibility of over 450,000 digital content items in over 6,800 NTNU courses in the 2019-2020 academic year.** Without these kinds of real-time, data-insights, it would be a challenge for an institution to make scalable, sustainable progress on meeting the Norwegian universal design legislative requirements.

> **Many people associate universal design with laws, regulations, standards and guidelines, but it is also about inclusion, participation, quality and usability. In the digital learning environment in higher education, for example, it is important that all students have access to the e-learning platform, but it is also important that they can use, process and enjoy the content that is shared there. - Universell**

The Blackboard Ally solution was created to help educational institutions enable these universal design principles of choice, flexibility, and usability in their digital environments . As an early adopter of Ally in Scandinavia and the first in Norway, the Norwegian University of Science and Technology (NTNU) is using Ally to integrate universal design into their teaching and learning experiences to support their mission "to contribute to diversity and equal opportunity in society."

The Institutional Report data also empowers units across NTNU to work together to solve accessibility challenges. For example, the NTNU library services is able to easily identify accessibility issues with publisher resources, and work with faculty and academic support teams to find solutions. The Institutional Report can aid department heads and academic leadership in setting accessibility goals and tracking progress as new content is uploaded into courses.

Supporting Instructors with Accessibility Guidance

The next step in NTNU's Ally journey was enabling Ally for students and instructors in courses. For instructors, this included access to Ally's accessibility indicators, instructor feedback, and Course Accessibility Report. **In just three months (August through October 2020), NTNU saw over 4,400 engagements with the accessibility indicators and 279 engagements with the Course Accessibility Report**, helping raise increase instructor awareness about accessibility issues with their course content. Overall, NTNU instructors have responded positively to the presence of Ally in their courses, and appreciate the improved efficiency different types of issues. One instructor describes:

> **[Ally] helps to make teachers more aware that small changes and practices can make a big difference for our students. In addition, the teacher gets guidance on how to design learning material in a more universal way.**
>
> **- NTNU Instructor**

The guidance and tutorials provided by Ally within the Instructor Feedback help instructors fix the accessibility issues. Over 78% of the files altered through Ally at NTNU resulted in an improved accessibility score, a high rate of success for instructors who may be learning about accessibility issues for the first time. For such a large university, training so many instructors through workshops can be a challenge, so the in-course feedback and guidance helps NTNU more effectively scale their faculty support and training around universal design.

NTNU campus flyer promotes how Ally helps instructors improve accessibility and evaluate their content for universal design

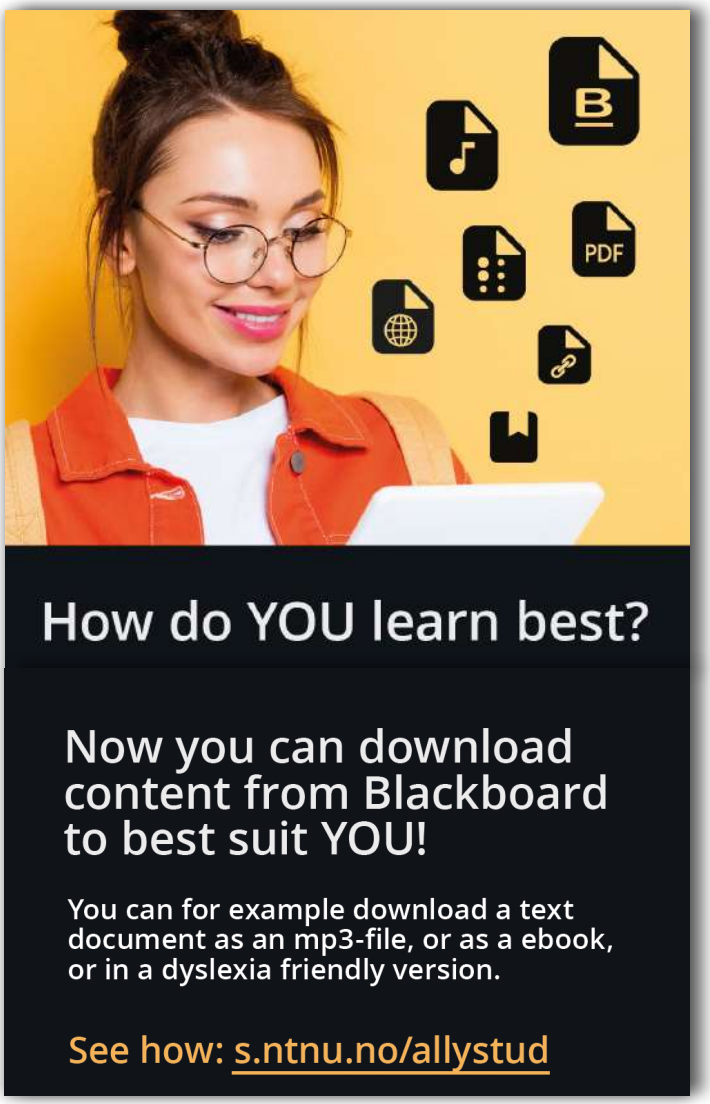
An Impact on the Student Learning Experience

When Ally is enabled in courses, students also benefit through direct access to Alternative Formats of their digital course content. Wherever they see files or content added to the course by their instructor, Ally provides students with the option to download the content in several different formats designed to work better with assistive technologies, mobile devices, and study tools. On-demand access to these options are especially important for students who do not disclose they have a disability, second language learners, students accessing content on a mobile device, or any student who wants to enhance their learning experience. One NTNU student remarks:

> **I have mainly used Ally as an aid in my reading. I listen to the audio file and browse the text at the same time. It helps me to understand and to get through all the texts. Without Ally, it would have taken twice as long to read the texts. - NTNU Student**

Blackboard

The numerous ways students can use Ally's Alternative Formats to support their learning, combined with their seamless integration in the course experience, has resulted in **over 26,000 downloads in over 2,000 NTNU courses in just three months.** Formats downloaded include Tagged PDFs from Word and PPT documents, mobile-friendly HTML, ePUB from web-based content, BeeLine Reader to support on-screen reading speed and focus, audio MP3, and electronic braille for students with visual impairments.



NTNU campus flyer promotes how Alternative Formats allow students to download content in a format that works best for their learning needs.

Advancing Universal Design in Teaching and Learning

The strong usage of the Alternative Formats by students provides some evidence to instructors that integrating universal design principles focused on choice, flexibility, and usability can help improve learning for all their students. Beyond just content, universal design principles can be applied to all aspects of the learning experience. As one instructor notes:

> **The need for universal design affects my teaching in several ways, not only in terms of how I develop and make available learning materials, but also in terms of how I think now about assignments or learning activities, and how these can be designed to account for different preferences and different ways of learning. - NTNU Instructor**

Ally's Instructor Feedback provides instructors with the information and tools they need to address barriers to universal access with their digital materials. The Alternative Formats provide flexible options for students to engage content in a way that works best for them. The Institutional Report provides data to inform strategy and track progress on the journey to more inclusive education. Together, these components of Ally are helping raise awareness about the value of universal design across NTNU. By connecting different areas of the institution around a shared mission, Ally is not only helping NTNU meet the Norwegian requirements for universal design, but also to drive innovation in teaching and learning that will help NTNU advance its reputation as a higher education leader in Scandinavia and around the world.

The **Book** of

Ally

Blackboard Ally Tour 2019: Tales from the Road

Blackboard

Blackboard

Blackboard Ally Tour 2019
Tales from the Road

Our Journey Around the World

Sights and sounds from the Ally Tour

The Long Road

After logging 86,259 miles on the odometer and visiting 51 institutions across 4 continents, 6 countries, and 20 US states, the Ally Van brought in the New Year parked in the IncluCity Repair Shop. But what an adventure we enjoyed over the year! We began our journey to learn about how colleges, universities, and schools around the world are addressing accessibility issues with their course materials to help make their campuses more inclusive for everyone. At each stop, we conducted a Universal Design for Learning workshop with faculty and staff, which included insights into the learning benefits of the Alternative Formats, as well as accessibility challenges using the Instructor Feedback. We also conducted data reviews with campus leaders where we analyzed the institution's accessibility data and usage data in relation to national trends, as well as discussed strategies for increasing progress and impact. We documented our campus visits in 13 blog posts, 28 video interviews with students, instructors, and academic leadership, and 7 podcasts with the learning technology teams leading their Ally implementation efforts. Each Tour stop provided a unique lens into the culture, challenges, and approaches of the institution, but we've tried to crystallize our discoveries into three findings related to the three parts of Ally: Alternative Formats, Instructor Feedback, and Institutional Report.

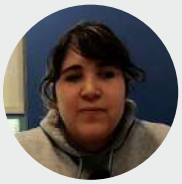
Snaps from the 2019 Ally Tour, including Boston (US), Charleston (US), Singapore, Aberdeen (Scotland), Montana (US), Tasmania (Australia), Trondheim (Norway), London (England), Tampa (US), and Grand Rapids (US)

Impact of Alternative Formats is Immediate and Far Reaching

During our data review sessions and Universal Design for Learning (UDL) workshops, our hosts often expressed surprise and excitement when they learned about the number of alternative format downloads in their courses, especially those who had yet to publicize the alternative formats to students.

Our journey around the world came to symbolize the journey undertaken by the people at the campuses we visited to make learning more inclusive for everyone, as the barriers to access and inclusion cannot be removed overnight, or in a single semester, or even in a year. It is a journey defined not by its destination, but through a culture shift marked by an on-going commitment across the institution to support diverse students' success, regardless of their need or ability.

Unique ways students, instructors, and staff are using Alternative Formats highlighted in Tour interviews



Juliana Torres (student at Atlantic Cape CC) prefers downloading her content in the HTML format because it's better for zooming in on the text to support her vision. Additionally, it allows her to easily access the content her multiple devices.

Andrew Phuong (student at UC Berkeley) benefits from bimodal presentation–listening and reading at the same time– to support his learning disabilities. Access to OCRed PDFs and MP3s without always having to depend on the alt media office makes him feel like a more independent learner.

Professor Scott Brag (Medical University of South Carolina, College of Pharmacy) downloads his lecture content in MP3 form to review for clarity so that his students can access his course materials in high-quality audio while driving or reviewing.

Sarah Bryan (Transitions Case Manager, College of DuPage) encourages her students with diagnosed anxiety and attention deficit disorders to download the HTML format for a cleaner, less distracting, high-contrast document that they can easily annotate.

Inclusion is a Team Sport

While the campuses we visited anticipated a largely positive response from students about the alternative formats, they expressed some apprehension about how their faculty might respond to the presence of the Ally indicators in their courses. Especially for larger universities, these concerns ranged from not being able to support an increase in service calls to worries that instructors might claim the accessibility checks infringed on their academic freedoms. Yet for institutions like UC Berkeley and the University of Toledo, who shared these concerns, they discovered that, upon activating the feedback in all their courses after one semester pilots, their teams were not flooded with support calls or complaints, and their usage data actually revealed many faculty were taking initial steps to improve the accessibility of files in their courses.

The success of these and other roll-out efforts we encountered on the Tour were not happy accidents; they were, instead, the result of strategic planning, messaging, and collaboration. Strategic planning often included leveraging the remixable Communications and Adoption Toolkit to quickly assemble knowledge resources tailored to the institution's needs, as well as configuring Ally's Custom Help to streamline and triage help requests from faculty. Successful messaging campaigns have pursued multiple communication channels, such announcements in the LMS, email campaigns, five-minute demos at department meetings, or endorsements from academic leadership, and focused on achieving three key objectives:

- Clearly states institutional expectations and goals for addressing accessibility issues
- Guides faculty to content with issues that are easier to fix for immediate impact and to help build confidence, such as their syllabus
- Helps faculty recognize more challenging accessibility issues can't be fixed overnight and that may require expertise using specialized tools

To support instructors with those more complex issues, we observed campuses taking advantage of the Ally feedback to mobilize multiple teams across campus in a collaborative effort.

For issues like untagged and scanned PDFs of publisher content, institutions such as the Medical University of South Carolina are collaborating with library staff to find accessible alternatives, add library references through Ally, or advocate to publishers about the importance of providing accessible materials. Similarly, teams working on Open Educational Resource (OER) initiatives describe collaborating with faculty to replace proprietary content with free and open content as part of campus affordability efforts. For disability resource offices and access teams, the Ally feedback has been used as a tool for proactively identifying barriers in courses and prioritizing remediation efforts. Even student worker teams are playing a role in making courses more accessible, using the Instructor Feedback and help documentation to take on remediation tasks that may be too time-consuming or complex for faculty.

2019 Global Ally Usage Data (5.4 million alternative formats downloaded, 579,000 course files altered through the instructor feedback, and 84% of files altered through feedback resulted in an improved accessibility score))

Accessibility Data Drives Understanding and Action

For campuses small and large, their journey to inclusion with Ally often begins with, and is guided by, their Institutional Report. Campus administrators talked about the critical importance of understanding where the barriers exist in their content across the LMS, the types and prevalence of those barriers, and how barriers are changing over time. Perhaps no example illustrates the value of this accessibility data better than our first visit with Atlantic Cape Community College, where, under pressure from a consent decree to reach specific accessibility goals, the institutional report offered the team real-time insights into their accessibility issues to target training and demonstrate progress.

We also saw institutions leveraging their Institutional Report insights to spark creative accessibility campaigns. During the Fall semester, Grand Valley State University kicked off their first department accessibility competition, awarding a $1,000 scholarship to the department that improved their Ally score the most by using the CSV export in their Institutional Report to track progress and share updates. Beyond just accessibility data, learning technologists like Claire Gardener (University of Derby) discussed using the report for insights into their LMS usage, gaining a clearer picture of the amount and types of content in courses, as well as uptake of tools such as quizzes and discussions. With the introduction of the Course Accessibility Report, which provides instructors an overview of their course content and actionable insights into accessibility issues, along with the integration of Ally usage data in the Institutional Report, campuses have more data than ever to pave their road to more inclusive education.

During data review sessions on the Tour, we shared how the institution's accessibility numbers compared to our 2017 data study and how their usage data compared to global Ally usage. From these high-level insights, campus administrators became increasingly curious about how their data compared to other similar institutions as a means of benchmarking their progress and evaluating the success of their roll-out strategies. Our task for 2020 became clear: To create a repository of research papers to further help institutions our their journey.

Blackboard

Blackboard Ally Tour 2019
Tales from the Road

Rising up to the Challenge:

Atlantic Cape's Three-Year Journey to a more Inclusive Campus

Listen to Podcasts
Atlantic Cape CC visit

Watch Atlantic Cape video interviews
https://tinyurl.com/TourACCC

When Life Gives you Lemons…

You're probably familiar with this old proverbial phrase about turning a negative into a positive. But turning life's lemons into lemonade takes more than just an optimistic, glass half-full attitude, especially when you're a college and those lemons arrive in the form of a lawsuit accusing your campus of not being accessible to students with disabilities. It takes creative problem-solving, resilience, self-reflection, and perhaps most importantly, a team of people committed to each other and committed to finding a solution.

In 2015, that's exactly where Atlantic Cape Community College found themselves after two blind students and the National Federation for the Blind filed a complaint against them for violating Title II of the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. In the Consent Decree that followed, Atlantic Cape agreed to, among other things, ensure that students with disabilities would have equitable access to their instructional materials at the same time as their non-disabled peers. They were given a three-year timeline to make their learning materials, websites, technologies, and campus facilities accessible to all students. A daunting task to say the least, Atlantic Cape was about to embark on their journey to inclusion.

The team that led the Ally roll-out and accessibility efforts at Atlantic Cape

> **"[Before Ally] we really didn't have a solution. I was tasked with checking every single course in Bb to make sure that the content was accessible. It was accessible here, two seconds later, they upload something, it might not be accessible. There wasn't enough analytics in the Office checkers alone."**
> - Michelle Perkins, Director Academic Technology

Peeling away the Pith: First Steps to Inclusion

A three-year mandate to 100% campus-wide accessibility demanded an immediate plan of action and an overhaul of many of their processes for supporting students with disabilities. But as Mike Barnes-director of the Center of Accessibility-describes, **the team also viewed the decree as a "good thing" in that it provided them with a blueprint and motivation to take actionable steps to improve the quality of the education experience for all their students, regardless of need.** The process began by hiring a blind student as a consultant to test all their campus systems,

helping the team create a map of the student experience and begin putting the procedures in place to ensure points of access.

Training and educating faculty on accessibility became priority number one for the instructional technology and accessibility teams. But how could they keep track of, and document the accessibility of, all the content in their learning management system (LMS)? Director of Instructional Technology Michelle Perkins was assigned the impossible task of trying to ensure course content both became and remained accessible across hundreds of courses and thousands of content items. In their search for solutions, they discovered Blackboard Ally in March 2017 and became one of the first campuses to adopt Ally as part of their accessibility solution.

> **"I like the alternative formats a lot. Not only does [the HTML format] make it more accessible in terms of vision, but I can save it to Chrome, then I can open it on my phone, on my laptop, or the computers in the library."**
>
> - Juliana Torres, Student with low-vision

So how did faculty respond to the decree and to this sudden demand to make their course content accessible? During my visit, I spoke to several Atlantic Cape faculty along with Vice President of Academic Affairs Dr. Josette Katz about how they began the process of cleaning up their courses and making their content more accessible, one file at a time. Time and again, I heard faculty talk about leaning on each other for support and guidance, and always finding a helping hand from the team and the tireless efforts of Chad Bullock, Senior Manager of Adaptive Technology.

From Sour to Sweet: The Culture Change

Where the word "accessibility" once inspired confusion and anxiety, today it has become a source of pride for the campus, as accessibility best practices have become integrated into all aspects of teaching and learning. Weekly course scores generated from Ally's institutional report using the "course export" feature have helped administrators and instructors track their progress, identify problem areas, and allocate the necessary support. During our faculty workshop, it was clear to me that this was a campus that took their Ally scores seriously. After spotting a contrast error in his PowerPoint file using Ally's in-browser preview, one faculty member exulted, "Finally! That file has been at 98% for so long, and I've never been able to find the contrast issue. Now it's 100%." Despite their initial frustrations with the consent decree, faculty remarked how rewarding it is to know that students can now access their courses regardless of need and ability.

Ally workshop with faculty during the Ally Tour, where faculty learned about the Alternative Formats

I had the opportunity to chat with Juliana, a triple major(!) with a passion for the culinary arts, who also happens to have a visual impairment. With the support of Chad, her instructors, and Ally's alternative formats, her dreams of working in the food industry are coming to fruition, as she prepares to graduate in the Spring and move on to a four-year university at nearby Fairleigh Dickinson. Her reasons for choosing FDU? Because they had the processes and technologies in place to support her learning needs – including Ally!

...Enjoying some Lemonade

With most of their courses at 90%+ accessibility score, the team can hone in on some of the remaining challenges, as well as shift toward integrating more Universal Design for Learning principles into their course designs. More accessible original files also means that faculty can feel confident that students like Juliana are going to receive high-quality alternative formats from Ally to support their learning needs. And because of their commitment to accessibility and inclusion, Atlantic Cape reports students with disabilities are enrolling in record numbers in pursuit of their academic and career dreams.

Blackboard

Blackboard Ally Tour 2019
Tales from the Road

A Tradition of Equity and Access in Education

at Lesley University in Massachusetts

Listen to Podcasts
Lesley University visit

Watch Lesley video interviews
https://tinyurl.com/AllyTourLesley

Accessibility and Social Justice

During my stay in Boston, Massachusetts, I had the chance to visit the "Frida Kahlo and Arte Popular" exhibit at The Museum of Fine Arts. The exhibit featured Kahlo's iconic self-portraits hanging alongside the artifacts of Mexican folk art that inspired her imagery. The artist's desire to elevate these treasures of Mexican and Indigenous culture to the status of "high art" is realized in the inclusion of these artifacts in the museum. It reminded me of my visit to Lesley University earlier in the week, where I learned about their rich tradition of making education more inclusive for all, especially for those groups who have been historically marginalized or excluded from higher education.

Central to the mission of higher education today, diversity and inclusion are recurring themes in university "vision statements." But for institutions like Lesley University in Cambridge, a social justice mission is woven into the fabric and spirit of the campus from its founding. Today that mission is reflected in the number of Lesley students who declare they have a disability- the third most in the state at 23% according to Assistant Provost for Academic Success Randi Korn. Considering that as many as 66% of students in higher education do not disclose they have a disability, whether because of stigma or lack of awareness, Lesley's commitment to an inclusive culture means students feel more empowered to seek out the services they need to help them be successful.

Located in the heart of Cambridge, Lesley University has a long of history of education focused on social justice

Accessibility and Social Justice

What stood out to me in conversations with faculty and staff at Lesley was their empathy-first approach in their teaching, which begins by recognizing the diverse needs and abilities of their students. During the course creation phase,

> **[Ally] makes it scalable, it makes [accessibility training] achievable for us, whereas if we had to reach out to individual faculty, it wouldn't be achievable. With Ally, we can look holistically across the institution and use data to create targeted trainings and outreach."**
>
> - Kristina McElroy, Director of Academic Technology

For students with significant disabilities, reading and writing are not the best ways for them to access learning. What Ally gave me was they can take that reading and turn it into audio. I took a poll of the class and many wanted text-to–speech software, and Ally just does that for me. ”

- Dr. Linda Lengyel, Special Education Professor, Lesley University

‘for example, instructional designer Robyn Belair described to me how they have faculty walk through their courses as students to better understand the course experience from their perspective, identifying and correcting points of confusion and barriers to information. Building

Art and Design Center at Lesley University where inclusive design is central in teaching and practice

on this empathy approach, Professor Lisa Spitz discussed how she anticipates learner variability and designs her courses for a “spectrum of abilities," by providing students multiple options for participation.

Faculty also empathize with the challenges students may face in being able to access and afford education and the important role technology can play in opening up access. Professor Susan Patterson of the Graduate School of Education, whose own research and teaching focus on ways new technologies can contribute to the democratization of education, described that when she was first introduced to online education, she was skeptical about its effectiveness. However, she has since realized the important role online education can play for so many students who encounter barriers to on-campus learning experiences, such as those students in remote rural areas or students from low-income families.

Access Remains the Hardest Part

Director of Academic Technology Kristina McElroy, who helped bring Blackboard Ally to the Lesley campus and has been leading their roll-out, felt from the beginning that Ally’s close alignment with the social justice mission of the university would appeal to faculty. For this reason, after a brief implementation and pilot phase, her team decided to move forward quickly in making Ally available to the entire campus. The response from faculty has been positive so far, and while they still face challenges in addressing accessibility issues with their course content, such as untagged PDFs from library resources, they have taken some key first steps in improving awareness and making simple changes to their course materials.

Aware of these persistent challenges, special education faculty member Professor Linda Lengyel explained to me that one of the hardest parts of education today remains ensuring students have equitable access- not just physical access, but access to the learning concepts themselves. This means continuing to develop creative, research-based pedagogy to support students in developing those key understandings so they can advance in their education.

I think about all the different students who might be accessing my content, that everybody exists along a spectrum, and someone who is tired might look like someone who as ADD at a given moment. So I try to make it easy for them to engage with the content in ways they will find helpful.”

- Lisa Spitz, College of Art and Design

Like the arte populare in the Museum of Fine Art, when diverse voices are empowered to participate and contribute in the classroom, everyone’s experience becomes enriched by the unique perspectives and worldviews they bring to the conversation.

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Blackboard Ally Tour 2019
Tales from the Road

Equity and Access over Three Generations

UC Berkeley takes on Digital Accessibility

Listen to Podcasts
UC Berkeley Visit

Watch Berkeley video interviews
https://tinyurl.com/UCBTourBlog

Through the Decades: From Analogue to Digital

In parallel with the Civil Rights movement and the Free Speech movement, the late 1960's gave rise to the Disability Rights movement. Led by activists like Ed Roberts, the University of California at Berkeley emerged as a hotbed for the movement, which demanded that physical spaces, campus facilities, and academic programs be able to accommodate people with disabilities. Their advocacy eventually resulted in the first independent living facility for people with disabilities in 1972, and helped advance section 504 of the Rehabilitation Act of 1973.

Only two decades later, Lucy Greco picked up that torch, serving as Berkeley's accessibility evangelist, and working across the campus to ensure students with disabilities have equitable opportunities for success. Over her 25 year career at Berkeley, Lucy has worked with students in using assistive technologies, tested campus web services and learning technologies for screen reader accessibility, and drafted campus accessibility policies around procurement and web presence. In her quest to bring accessibility to every corner of the campus, Lucy describes how for the first time, she has a tool that helps her reach faculty inside their courses. She is adamant that faculty want to do the right thing, they just lack the awareness and the basic skills to make accessibility a part of their teaching and learning.

During the podcast, we also spoke to the accessibility team lead at Berkeley, Dr. Joseph Feria-Galicia, who shares a very personal connection to the disability community. Having experienced his own brother lose his vision, Joseph recounts how screen reader technology and the web helped reconnect his brother to the world, but also revealed the barriers his brother encountered navigating inaccessible websites.

Berkeley was the birthplace of the Free Speech Movement and Disability Rights Movement in the 1960's

> **The biggest problem has always been getting to faculty and getting them to fix the problem before it happens . . . Ally gets to the faculty where they are at, and gives them the information in small digestible bites, which is really important.**
>
> - Lucy Greco, UC Berkeley Accessibility Evangelist

> **Ally is really effective because a disabled resource program may not have the time and resources to make that text accessible. Ally gives us the opportunity to make last minute changes, like convert it into a different language or a different modality like ePub.** - Andrew Phuong, Grad Student

As an instructional designer, Joseph prioritized accessibility, and partnered with Lucy to create a template and strategy for accessible course design.

> **It's galvanized us to work across other units on campus. It's the first time in my recollection that this has happened, so the momentum that Ally is providing is creating a culture change around accessibility."**
>
> - Joseph Feria-Galicia, Accessibility Team Lead

When he was assigned the task of leading the deployment of Bb Ally on a campus as large as Berkeley, there was some initial trepidation about how his team might handle service requests and potential pushback from faculty. But through strategic messaging and a focus on building faculty awareness first, Lucy, Joseph, and the team at Berkeley are seeing some initial successes in terms of faculty usage and awareness, and now able to better identify opportunities for further impact. Joseph credits his collaboration with Bb accessibility strategist Krista Greear for helping guide their process toward a full campus rollout, as well feedback from members of the Ally Community.

The Non-Traditional Learner is the New Norm

The shifting landscape of higher education today has been well documented, and institutions are re-imagining how to engage and support diverse students. In our conversation with Berkeley's alternative media supervisor, Joseph Polizzotto explains that his office is receiving more requests from students with documented disabilities to have their learning content in a format that fits their unique learning needs. Based on his experiences in the classroom and in his current position, Joseph highlights the ways that assistive technologies and access to alternative formats of learning content can positively impact the student experience, and sees these kinds of tools becoming a more regular part of all student learning.

As an instructor and researcher, Andrew argues that curriculum should be responsive to the interests and inquiries of students, so being able to update syllabi or offer supplemental materials is an essential pedagogical practice. However, this can also create challenges for students who use assistive technologies if these materials are not accessible and the alt media team cannot remediate the content with such short turnaround. For Andrew, having a tool inside the course that can allow a student to easily OCR a scan or engage with an ePub can ensure students who use assistive technologies do not miss out on these kinds of adaptive learning opportunities.

Following in Berkeley's tradition of activism and scholarship around disability rights, Andrew's research focuses on what he calls "adaptive equity-oriented adaptive pedagogy." Through experimental design, Andrew has set out to demonstrate empirically that fostering a sense of belonging and being responsive to changing student needs can have a direct impact on student success. From Ed Roberts in the 1960s to Lucy Greco to Andrew Phuong, Berkeley has seen three generations of disability rights advocates and innovators pass through Sproul Plaza, paving the way for a more inclusive campus learning experience for future generations.

Sproul Hall and Sproul Plaza on the campus at University of California at Berkeley

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Blackboard Ally Tour 2019
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Equity and Access in Healthcare Education

New Horizons at the Medical University of South Carolina

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MUSC visit

Watch MUSC video interviews
https://tinyurl.com/AllyTourMUSC

A Mission Most Possible

The impossible happens every day. People break down barriers every day. Just ask Dr. Philip Zazove, one of the country's first physicians with profound hearing loss. After being told as a child he would have limited professional opportunities because of his disability, Dr. Zazove now has his own medical practice and serves as the department chair of family medicine at the University of Michigan. In the field of medicine generally, breakthroughs and innovations continue to redefine what's humanly possible.

During our Tour stop at the Medical University of South Carolina, I had the chance to chat with Dr. Melissa Hortman, Director of Instructional Technology at the Medical University of South Carolina (MUSC). She also believes in reimagining what's possible for educational opportunities in the healthcare field by championing a campus-wide commitment to inclusive education and universal access. For Dr. Hortman, a key first step to inclusion is helping faculty recognize that accessibility and accommodation do not compromise academic rigor; rather, providing people equitable opportunities to participate and be successful will result in more diverse medical professionals who can benefit patient care and research broadly. Still, the stigma that a person with a disability would not be capable of meeting the physical and cognitive demands of the profession has contributed to the current lack of faculty awareness about digital accessibility best practices. But sentiments and understandings have begun to shift at MUSC, as equity and inclusion have become key pillars of the university mission, and as Universal Design for Learning principles have become more deeply woven into everyday instructional practices.

The Medical University of South Carolina in Charleston, South Carolina adopted Ally to help integrate Universal Design for Learning principles at scale, and support access for diverse students

> **You can see instructors' faces light up and go: "Oh you mean I can upload my content in this way, but students can just grab it this entirely other way, and be able to listen to it, and or use the epub and annotate it?" It's really powerful. But also it leads down to the bigger conversations about how they're designing their courses."** - Alex Walters, Instructional Designer

Clearing Pathways to the Possible

I also spoke with Dr. Scott Bragg, professor in the College of Pharmacy, who explained to me that accessibility has become a bigger priority for faculty not only because of the need to meet legal requirements, but also because it is the right thing to do and it supports student learning. As an example, he mentions how he observed many students using audiobooks to study, taking advantage of their time stuck in local Charleston traffic to review their course materials. **By making his lectures more accessible with image descriptions and correct formatting, he's helping ensure students can take full advantage of text-to-speech tools like Blackboard Ally's MP3 alternative format to improve their learning outcomes.**

While awareness about the benefits of inclusive course design may be growing on campus, there are still challenges for time-pressed faculty to make complex healthcare curricula accessible, as well as for instructional technologists to retrain faculty in using authoring tools and updating inaccessible materials. Consider, for example, writing image descriptions for dozens of images of patient x-rays in a lecture presentation, or captioning hundreds of hours of lecture video. Faculty like Dr. Bragg and curriculum advisors like Daniel Berg in the College of Dental Medicine advise faculty to look for impact when making fixes to their existing content, and develop skills with authoring tools to create

> **[Ally has] been doing the work of 15 instructional designers, which I definitely could not have done. So for small teams, this is a very important tool that can help support faculty where they're at without you having to be the end all be all."** - Dr. Melissa Hortman, Director of Instructional Technology

new content that meets accessibility standards; content that is more usable and more directly aligned with learning objectives.

One-to-one consultations with faculty have been effective in helping build these fundamental skills and UDL practices, but Ally helps MUSC scale these efforts. The percentage based-scoring and colored gauges seem to appeal to the data-oriented faculty at a healthcare institution, which for professors like Dr. Bragg, provide both insight into accessibility issues and some motivation to achieve green indicators. **Daniel Berg exclaims, " Faculty really do like seeing their Ally scores go from the red to yellow to green."**

New Realms of Possibility

To broaden the scope impact of their accessibility efforts, the teams at MUSC have used Ally to bring various campus stakeholders together to address barriers to inclusion. For example, collaborating with library services to identify PDFs with missing tags in the Institutional Report, and then using the Library Reference to add a link to a more accessible version of the PDF in the library database. Instructional Technology consultant Bernard Jansen and his team in the College of Nursing are using Ally to check a range of content shared to institutional websites and broader campus and hospital communities.

In becoming a more inclusive campus, MUSC is blazing a new pathway forward for healthcare education and patient care. Moving from a deficit orientation about people with disabilities toward recognizing the unique ways people with diverse abilities can contribute to the profession, helps create a more empathetic, innovative healthcare community. Heroes like Dr. Philip Zazove show us that the impossible is merely a state of mind. So while the road to accessible instructional content may be a long one, along that journey, campuses like MUSC who have made a commitment to inclusion are opening new realms of possibility for people to pursue their dreams without barriers.

Ally has helped catalyze conversation and awareness about barriers to access and equity across every aspect of the student experience

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Tales from the Road

The Road to IncluCity Crosses the Atlantic

Insights from Stops around the United Kingdom

Watch interview highlights from around the United Kingdom:
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Working Towards the Web Accessibility Directive

To meet the requirements of the Web Accessibility Directive, which will go into enforcement on September 23rd 2019 in the European Union, universities are ramping up their efforts to address accessibility barriers across the institution. In addition to public website accessibility, the Directive specifically requires institutions take a more proactive approach in identifying and improving the accessibility of digital learning content in the Virtual Learning Environment (VLE). To help universities meet the directive, the white paper by the UK All-Party Parliamentary Group on Assistive Technology (APPGAT) advises:

Recommendation 14: "Colleges and universities should audit the accessibility of their VLE and make a public timeline and plan for addressing different types of pre-existing inaccessible content."

Recommendation 15: "Colleges and universities should set targets for training and raising awareness among content creators, including academic staff. In order to reach all content creators within the required timeframe."

During our Tour visits, we learned how institutions are using Ally to implement these recommendations. The Institutional Report has become an essential tool by providing universities with detailed insight about content accessibility across the VLE, allowing universities to design a data-informed strategy, and then track their progress and impact. At the University of Reading, Senior TEL advisor Maria-Christiana Papaefthimiou described how they will work with the library and disability offices to identify high-need courses, and use the report to design a messaging and professional development plan to best support those instructors improve the accessibility of their learning materials.

Sites from the Tour: King's College at the University of Aberdeen, the fifth oldest university in the British Isles

> **With new material, I look to see how I can make it accessible right from the beginning… I made an effort this academic session to go into a number of my previous PowerPoint presentations, and try to improve those. I decided it was sensible to aim for improvement rather than perfection."**
>
> - Prof. Alison Jenkins, Dean of Undergraduate Studies, University of Aberdeen

Helping instructors address accessibility issues with course content does not imply fixing files for them, as such an approach leaves institutions in an unsustainable reactive position. Instead, instructors need to develop an understanding about how to effectively use authoring and accessibility tools so that universal design becomes an integral part of their pedagogical approach. Co-leader of the Blackboard Ally European User Group, Claire Gardener of the University of Derby explained to us during our Tour visit that they want academics to use the Instructor Feedback to build their awareness around accessibility issues, and use the built-in tutorials and feedback to ensure that new content they add to the VLE meets accessibility standards. At the University of Kent, a review of their Blackboard Ally usage data during our Tour visit illustrated that instructors are already taking actionable steps to fix accessibility issues. **Instructional technologist Daniel Clark from the University of Kent noted, "I think what's interesting about the [Ally] data is you can very clearly look at the impact that it's having on the students who have chosen to engage with Alternative Formats. But you can also see what academics are doing. Academics are acting upon their documents within the VLE and making positive changes, and improving the accessibility scores. It's really great to see."**

Supporting Changing Student Needs

For the instructional technologists and academic leadership teams we talked to during the Tour, the goal of becoming a more inclusive campus goes beyond meeting policy requirements, as institutions reimagine the educational experience in an increasingly global, digitized higher education landscape. Fiona Shelton, Dean of Undergraduate Studies, cited motivational research in our conversation, which finds that fostering a sense of belonging can be an important performance motivator. Ensuring diverse students feel empowered to participate in the learning environment, therefore, can impact their success in university and in the workplace.

During our visits, we also heard from universities about how their students are using the alternative formats. Between March 17, 2018 and May 15, 2019, European campuses alone downloaded over 160,000 alternative formats from Blackboard Ally. Senior TEL advisor at the University of Reading, Jackie Fairbairn reported how during focus groups, students lauded the "immediacy" of the alternative formats to meet their learning preference, as well as the value of the audio format such as when time-pressed during finals. For Reading graduate student Mariwan Inferadi, the alternative formats have allowed him to engage with content using his screen reader that he could not access in previous semesters. Universities are working towards providing more inclusive learning environments where students feel empowered to be independent, autonomous, and self-reflective learners.

The team at University of Reading shares what they've learned in conversations with students about their usage of the Alternative Formats. Following the conversation, academics joined for a workshop on Ally and Universal Design for Learning

> **Just providing choices to people, which we haven't had in the past, I think that's a real benefit… They can choose to make it into a sound file or an HTML document. From an academic's perspective, that's just wonderful because it's giving students the autonomy to use the materials in ways that suit them best."**
>
> - Professor Claire Furneaux, Dean of Teaching and Learning, University of Reading

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Blackboard Ally Tour 2019
Tales from the Road

Mapping New Terrains for Student Learning

The Blackboard Ally Tour Heads Down Under

From Songlines to Alternative Formats

Known as "Songlines," the First Australians "mapped" their environment using rhythm and melody to identify resources like water and food supplies. In the absence of a shared written or spoken language, these representations of the land served as a mode of communication among nomadic groups traversing the harsh Australian terrain. Comparing these auditory maps to the high-fidelity satellite images and GPS tracking that guide our travel today illustrates how the tools that we use to mediate our relationships with other people and with the world around us directly shape how we access and process information.

On the left, a map of Australia represented through Songlines called "Seven Sisters Songline" by Josephine Mick, Pipalyatjara (1994) and on the right, an satellite image from Google Earth.

The theory that tools and language mediate cognition (learning) was first articulated by the psychologist Lev Vygotsky, and persists in the learning sciences today. Literacy and media scholars such as Walter Ong and Marshall McLuhan theorized about the transition from an oral tradition to print literacy, and the ways communication mediums affect learning and information sharing. With the dawn of the digital age, the shift from print text to multi-media experiences and continuous connectivity across multiple devices and social contexts is also creating new conditions for learning and development.

To account for this changing information landscape, Universal Design for Learning (UDL) research, drawing from cutting-edge work in neuroscience, details how varied sensory experiences and modes of representation activate different neurological pathways in the brain. Similarly, an emerging field of literacy research called "multimodality" explores how digital reading and composing practices increasingly blend image and sound to create new kinds of meaning and understanding. Tools like Blackboard Ally's alternative formats that allow people to freely transform texts into different modalities and formats, as well as combine and engage different sensory representations of texts, therefore, play an important role in mediating learning in education today

Alternative Formats as Learning Tools

During our first Blackboard Ally session at our Teaching and Learning Conference (TLC) Australia/New Zealand (ANZ) conference, we drew from these strands of research in detailing the many learning benefits of the alternative formats.

For example, bimodal presentation of texts, such as pairing Ally's audio MP3 with a Tagged PDF, may help learners with focus or comprehension challenges better understand their course materials. Low income learners without access to a computer may benefit from reading mobile-friendly formats, such as Ally's HTML or ePUB format. Empowering students to actively choose how they engage with their learning materials fosters "learner preference," where students develop an understanding about how they learn best, or the best learning strategy for a given context. The reflective practices and strategic decision-making involved in refining one's learner preference improves metacognitive awareness, which can help struggling students overcome academic challenges.

The lesson for faculty: By improving the accessibility of their original documents they can ensure students have access to high-quality alternative formats to benefit their learning.

Insights from RMIT and GOTAFE

Following a great week at TLC ANZ in Sydney, we hit the road for Tour stops at five universities in Melbourne, Brisbane, and Hobart. Each visit included a UDL workshop focused on supporting the diverse needs of 21st-century digital learners, and a data review of the institution's accessibility scores, alternative format downloads, and instructor feedback engagement.

> **In the past 12 months, Blackboard Ally users across Australia have downloaded nearly 100,000 alternative formats, eclipsing 27,000 downloads in August alone, as well as improved the accessibility scores of over 17,000 course files.**

Participants who hadn't yet seen their usage data were encouraged that so many students were discovering the alternative formats on their own and making them part of their learning experience. During our visits, we had the chance to learn more about how institutions in Australia have been rolling out Blackboard Ally to faculty and students. The Royal Melbourne Institute of Technology (RMIT), for example, has taken a "Communities of Practice" approach by turning on alternative formats and instructor feedback in all their courses and allowing expertise and champions from the campus community to emerge and influence others. **Over the past 12 months, RMIT has seen strong adoption of Blackboard Ally by students and faculty, with over 10,000 alternative formats downloads and over 3,000 files fixed through the instructor feedback.** As awareness about accessibility and alternative formats has grown from the ground-up, the team has been putting in place their "Digital Learning and Teaching Framework," which includes a good practice principle committed to "Inclusive" design. The principle takes a UDL approach that closely aligns with Blackboard Ally's capabilities, focusing on supporting diverse learner needs by ensuring content meets accessibility standards to promote a more inclusive learning experience for all students at RMIT.

We also met with Ilona Van Galen, Digital Education Designer, and the team from GOTAFE, where they have taken a strategic approach to addressing accessibility issues in their courses, beginning with a focus on the HTML content in courses. Leveraging Blackboard Ally's reporting insights, they have assigned a small team of resource developers to "renovate" courses and ensure that the HTML meets WCAG standards. **Their efforts have improved course accessibility in several key areas, including reducing the number of images missing description by 20 percentage points.** Moving forward, they want to grow faculty understanding about the benefits of accessibility for all learners, and focus on addressing accessibility issues with their course files. GOTAFE has introduced an accessibility section in their online training course for faculty, and will take advantage of Blackboard Ally's instructor feedback and course report to provide their faculty with on-demand guidance to ensure their course files are accessible to all their students.

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Blackboard Ally Tour 2019
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Community First on the Road to Inclusion

Supporting Student Success at the College of DuPage

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College of DuPage visit

Watch DuPage video interviews
https://tinyurl.com/AllyVisitDuPage

Popcorn and Promoting Personalized Learning

The aroma of fresh popcorn filled the air outside the "Access and Accommodations Office" at the College or DuPage, as members of the Learning Technologies team passed out Ally swag and popcorn to students passing by. While the team may spend the majority of their time working with faculty on their courses, they still play an active role helping students take advantage of available digital tools to enhance their learning. On this day, they are letting students know about Ally's alternative formats, and where to find them in their courses. In Episode 6 of the Ally Tour podcast, the Learning Technologies team shares more about their efforts to promote the learning benefits of the alternative formats and support a more inclusive COD campus.

The second largest community college in the country, COD is nestled in the picturesque town of Glen Ellyn, Illinois, just 30 miles west from Downtown Chicago. It was clear during our Ally Tour stop that no matter where a student might wander in the halls of COD, there was a supportive community guiding them on their journey.

Like many community colleges, COD provides opportunities for career and academic advancement to diverse students, including a growing population of students with diagnosed disabilities. Studies over the last decade report 71% of students with disabilities attend community college (Barnett, 2006), though only 8% of students with disabilities ultimately complete a college degree (US Dept of Education, 2017). Helping ensure students with diagnosed disabilities as well as students with undiagnosed disabilities and other unique learning needs have equitable opportunities for success is therefore a campus-wide commitment, and a key area of focus for the Learning Technologies team.

The Student Resources Center at the College of DuPage supports the needs of a diverse student body

> **We have students with emotional disorders, which Ally also is very helpful for them because any level of frustration as far as being able to access something, they just quit, they're done- When they use Ally and see that it is easier, it's more accessible, they don't feel so defeated right away."**
>
> - Sarah Bryan, Transitions Case Manager

Universal Design as a "Guided Pathway" for All

To support their diverse learners, instructional designers Becky Benkert and Michael Maxse work with faculty to infuse universal design principles in their courses, such as providing students with course content in different modalities so that they have options to learn in ways that work best for them. Susan Landers, manager of the Learning Technologies department, describes how tools like Ally that help promote these universal design for learning principles have also helped raise awareness and drive momentum for broader student success efforts, such as the "Guided Pathways" program designed to make navigating the college experience easier and more effective. Accommodations Specialist Kelli Kerns affirms the importance of the college faculty emphasizing universal design in their content authoring: **"Making faculty aware that there is a need for Universal Design not just for students with disabilities, but every type of learner. So improving their abilities to upload documents can be really helpful to everyone."**

For a student like Zach, access to course materials that work with his screen reader can make a difference between an easier path and a harder path. During my Tour visits, I'm sometimes asked by instructors why a properly Tagged PDF is important to accessibility. Zach explained this in quite clear terms to me: When he is using his screen reader to listen to a document, there are moments when things suddenly appear out of order, and the document no longer makes logical sense. At this point, he's realized the reading order of the document has not been properly tagged, and it's going to be near impossible to grasp the material out of order. He'll need to make a trip to the Access and Accommodations Office to have the PDF remediated before he can complete his work. Yet despite some of these challenges, Zach's own perseverance and the vast network of support at COD keep him on a pathway toward a career in accounting and business. And while fixing all the untagged PDFs will take some time, using Ally to readily identify courses where those untagged PDFs appear can help accessibility and remediation professionals like Maureen Price and Kelli Kerns ensure that Zach has his accessible course materials before he sits down to read them.

> **Having things laid out in the same way on a consistent basis reduces confusion for everybody not just visually blind students, but for everybody.**
>
> - Zach, Accounting Major

As we departed COD and prepared for the 260 mile drive to Southern Illinois Edwardsville University, I felt a deep sense of community among the learning technologies team and the broader campus. I think sometimes, the journey to inclusive education becomes overwhelmed by document remediation and content accessibility, but we shouldn't forget that inclusion begins in the content of the relationships that form between people. I was reminded by the close-knit, supportive, and fun-loving people at DuPage that the pathway to inclusion truly begins in the community, and once we have made a collective commitment to a more inclusive campus for everyone, only then can we begin navigating through the barriers and challenges that stand before us.

The team from the Learning Technologies department at the College of DuPage take a spin in the Inclusion Van. The team plays an active role in fostering a sense of community at the college.

> **Everyone learns differently, and maybe one thing might be good for one student but another student might be struggling. And as a teacher, you'd want both students to be successful in the end.**
>
> - Colleen, Sports Studies Major

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An Evolution in Access through Empathy

Inclusive Culture at Southern Illinois University, Edwardsville

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SIUE visit

Watch SIUE video interviews
https://tinyurl.com/AllySIUEVisit

Support Resources Regardless of Need

From the College of DuPage, we made the four-hour drive down Highway 55 towards St. Louis to Southern Illinois Edwardsville University for our 41st stop on the Ally Tour. Home to over 13,000 students, including 430 international students representing 51 countries, SIUE's commitment to diversity and inclusion echoes across the campus, from their their core institutional values to various programs and events celebrating their multicultural student body. Matt Butler, Vice President of the Student Government, shares what he's observed during his time at SIUE: "Every year here we've taken another step forward in allowing our students to see all the resources available to them, whether they need them or not."

Access to resources regardless of need captures the spirit of an inclusive approach. During a student's tenure at a university, circumstances may change that impact their ability to succeed- they may sustain an injury that causes a temporary disability, family or financial circumstances may cause increased anxiety, stress, depression, or, they may find themselves struggling with coursework due to a learning challenge that went undiagnosed. Knowing where to locate resources on campus for support before something happens provides a sense of security and helps ensure that if and when a need arises, students can act quickly and decisively before they find themselves in danger of failing or drop-out.

The Kimmell Student Involvement Center at SIUE where diversity events drive an inclusive campus culture

At the center of SIUE's efforts to support their diverse learners sits the Office for Accessible Campus Community & Equitable Student Support, referred to as the ACCESS office.

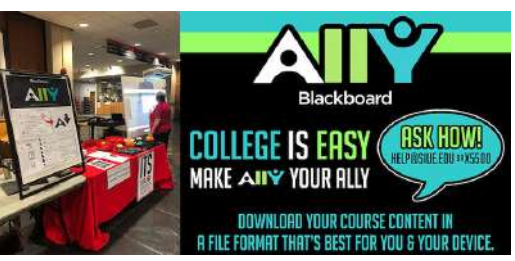
Our number one form of accommodation is just being that of a faculty-student liaison and really helping faculty understand the mechanics of their own courses... It's helping faculty, staff, and administrators understand complex learners and the nuances and the different experiences they are having because many of them just don't know."

- Dominic Dorsey, Director of ACCESS

The Office focuses on the entire student lifecycle, from disability diagnosis to content remediation to study skills and life skills, preparing students to succeed both in the classroom as well as in their future careers. Professor Laura Fowler (Historical and Museum Studies) describes how the office's name and role have changed during her tenure at the university: **"I think the office of ACCESS, just as an external observer, has become much more visible on campus. They changed their name from Disability Support Services to ACCESS, which I think in and of itself talks about a change in methodology and perspective."** During our visit, we had the chance to sit down with the director of ACCESS, Dominic Dorsey who shared more about the evolution of their inclusive mission.

Building Empathy into Course Design

Providing students with access to tools that can support their changing needs, and providing instructors with tools to help them anticipate and address those changing needs are two of the reasons why SIUE chose to make Ally part of their LMS experience. Reflecting on using Ally to address accessibility issues in his course, Professor Mark Poepsel (Mass Communications) challenges the idea that a commitment to accessibility needs to be a time burden. Instead, he's found that the time he commits to improving the accessibility and usability of his course content at the beginning of a term translates into time saved during the term because he spends less time answering student questions and clarifying points of confusion.



Ally booth and poster promoting alternative formats at the Student Center during the Ally visit, including a Smart Board to allow students to try out the formats while picking up some Ally swag.

> **Instructors might not know what situation a student is in at every moment. You have to have that empathy and just ask "Where are you reading these materials?" And I think the Ally reporting helps to see what they are downloading, but also just asking "When do you study" What do you do when you study?" Because it's changing and it will continue to change**- Emily Keener, Instructional Designer

During the Ally Tour, we've documented the ways clarity, consistency, and usability in course materials and design can help students feel more confident, participate with greater autonomy, and enhance their engagement. At SIUE, student Jason Pappas described a case where he was required to read a scan of a magazine article for one of his courses. Where a low-quality scan of a multi-column magazine article poses numerous usability challenges that may frustrate or affect a student's engagement, he was able to use Ally to download an HTML version of the document, which he found to be cleaner and easier to read.

As a student ambassador at SIUE, Jason knows first-hand as well as through his interactions with his peers on campus that freshman year can feel like a daunting, even overwhelming experience. Given 30% of college freshman drop-out after their first year, providing tools and resources that empower them as learners and that facilitate effective learning strategies can have a significant impact on their success in the classroom and beyond. When we departed for the EDUCAUSE conference in Chicago, it was clear that SIUE's focus on empathy in their course design and in the support structures offered to their diverse students has become ingrained in the campus culture and plays a crucial role in their journey to more inclusive education. Student Abby Forlines says it best: **"Everybody should feel they belong because they do belong, and that's important here at SIUE."**

The Book of Ally

Inclusive Learning Research Series: Understanding Accessibility Trends and Ally Impact

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Inclusive Learning Series

Research Insights from the Ally Community

Choose your Format:
Usage of Alternative Formats of Course Content

Extended Abstract

"Alternative formats" of learning content have historically been reserved for people with disabilities, however, emerging learning theories emphasize providing all students with content in multiple formats that meet their unique learning needs, preferences, and devices. Despite the promising benefits to student learning, there has been little empirical research that examines student adoption and decision-making when presented with multiple options of their learning materials. In this paper, we analyze data gathered over two years from over 7 million alternative format downloads across 300 US colleges and universities using Blackboard Ally. The Ally software automatically generates eight different alternative formats of digital content uploaded by instructors into their Learning Management System (LMS) courses and makes these available to all students on demand.

Key Findings

- Comparing download activity at the beginning and end of a term, an increase in the number of downloads per student, and an increase in the conversion rate between opening the alternative formats window and downloading a specific format, suggest students find sustained value from the formats as the term progresses.
- Although PDF was the most prevalent file in LMS courses (most often downloaded as a mobile-friendly HTML format), Word docs and presentations respectively were the file types most frequently downloaded as an alternative format (most often as a Tagged PDF). Other file types such as ePub, MP3, and OCRed PDFs account for less than 10% of total format types downloaded.
- Institution type (based on Carnegie Classification) and institution size (based on Full-Time Enrollment) do not appear to have a significant effect on the median download rate of the alternative formats. The types of formats downloaded also appear consistent across different institution types, with Tagged PDF and HTML representing between 89% and 92% of the total formats downloaded across all four institution types.

Implications

While most of the institutions represented in the data set only recently adopted Ally and have yet to promote the alternative formats widely to students, the usage rates suggest rapid, organic uptake by students. Download rates suggest many more students than those with disclosed disabilities access the formats, and that their value appeals to students regardless of the type of institution they attend. At the same time, the concentration of Tagged PDF and HTML downloads suggests students may not be completely familiar with why or when to use other available formats like ePub, and may benefit from more guidance on how to use a variety of formats to support their learning needs.

Inclusive Learning Series

Research Insights from the Ally Community

Choose your Format:
Usage of Alternative Formats of Course Content

Study Context

Over the past several decades, learning theories have increasingly privileged more personalized learning experiences. Universal Design for Learning (UDL) frameworks emphasize representing learning content in a variety of sensory modalities and formats to provide students with choices that fit their unique learning needs and preferences. Reasons for making "Alternative Formats" of learning content available to all students include:

- Research suggests 66% of students who may qualify for disability-related accommodations do not disclose that they have a disability
- Increased use of mobile devices and tablets require responsive formats for optimized reading experiences
- "Bimodal presentation" - listening and reading to content at the same time - can benefit student with learning disabilities and second language learners
- Commuter students, working students, and students with family obligations may benefit from more flexible options for studying and reviewing course materials on the go

In this paper, we analyze trends in student usage of **Alternative Formats** of course content in the Learning Management System (LMS) generated through Blackboard Ally. Wherever students see the 'A download' icon next to their course files (pictured below) they can click the icon and view the available formats, which will depend on the type of original file.

Clicking the Alternative Formats download icon next to a course file opens the menu of options

Data Set and Research Questions

The data set includes Alternative Format (AF) activity from 313 US colleges and universities of varying size and type with alternative formats enabled in at least 70% of their Fall 2019 courses. Over 600 institutions had at least one download in Fall 2019, but may have been in a pilot phase of their implementation, and were therefore only counted in some of the aggregated totals. AF activities include clicking the AF icon to open the AF menu and downloading a particular format. While any user in a course can download an Alternative Format, students were responsible for over 99% of total downloads.

? *What are overall trends in download activity and types of formats downloaded by students?*

? *How does download activity compare across different types of institutions, as determined by Carnegie Classification and Total Full Time Enrollment (FTE)?*

List of Alternative Formats and their use cases

Format Type	Original File	Use cases
Tagged PDF	Word, PPT	Devices without MS Office; Screen reader; Reduced file size
HTML	PDF, Word, PPT	Mobile-friendly; Responsive; Semantic markup for structure
OCRed PDF	Scanned PDF	Searchable document; Screen reader friendly
ePub	Word, PPT, PDF, HTML file	Annotation and highlighting; Font customization; Mobile
MP3	Word, PPT, PDF, HTML file	On-the-go learning; bimodal presentation
Electronic Braille	Word, PPT, PDF HTML file	Tactile reading; Improve spelling/grammar
Language Translation	Word, PPT, PDF HTML file	2nd Language Learners; Supporting families
BeeLine Reader	Word, PPT, PDF HTML file	Speed reading; Eye and attention focus

Total AF Downloads over Time and by Type

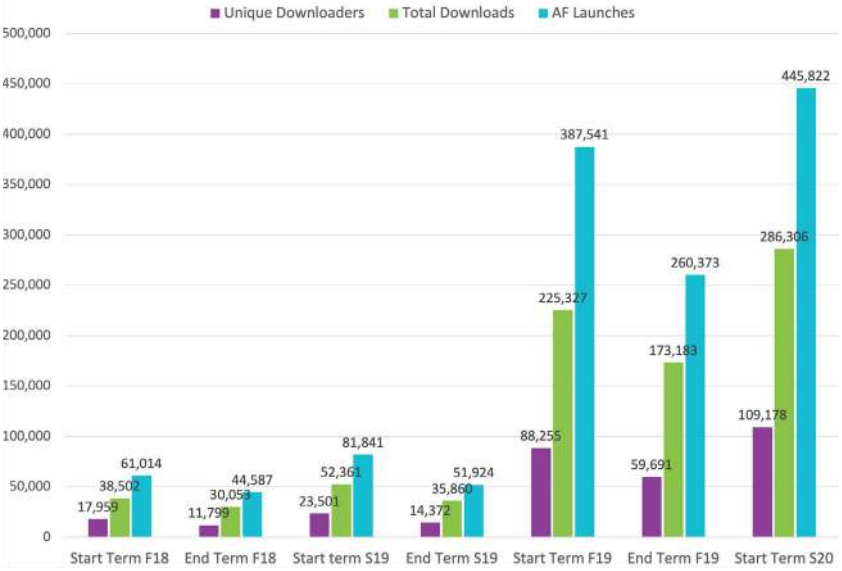
In just under 2 years, **7.39 million** Alternative Formats were downloaded in the US, about half of which occurred during the Fall 19 term. The bar graphs illustrate the average number of downloads during the first three weeks and last three weeks of the semester. The **528% increase** in downloads from the start of the Spring 18 term and start of the Fall 19 term can be attributed to both an increase in the number of campuses using Ally and a design change that introduced a more prominent AF download icon.

Focusing on the Fall 19 term, while the number of unique downloaders decreased by 32% from start to end, the number of downloads per user **increased from 2.55 to 2.90**. Further, the conversion rate between launching the AF modal and downloading a specific format also **increased from 55% to 67%.** While the decrease in number of unique users over a term may be due in part to student drop-out and lower LMS usage, the increase in downloads per user and conversion rate suggest **many students find sustained value from the formats** and continue accessing and downloading them during the term.

Of the four file types represented in the figure to the right, PDF was the most prevalent in LMS courses during the Fall 2019 term, though Word Docs and Presentations were most frequently downloaded as an Alternative Format (*Note: BeeLine Reader and Language Translation were available on a limited basis).* For 203 institutions with a designated "Fall 2019 term" in their LMS:

- **920K Tagged PDFs** were downloaded from **5.2M Docs and Presentations**
- **60K OCRed PDFs** were downloaded from **765K Scanned PDFs**
- **420K HTML** files were downloaded from **9.75M PDFs, Docs, and Presentations**

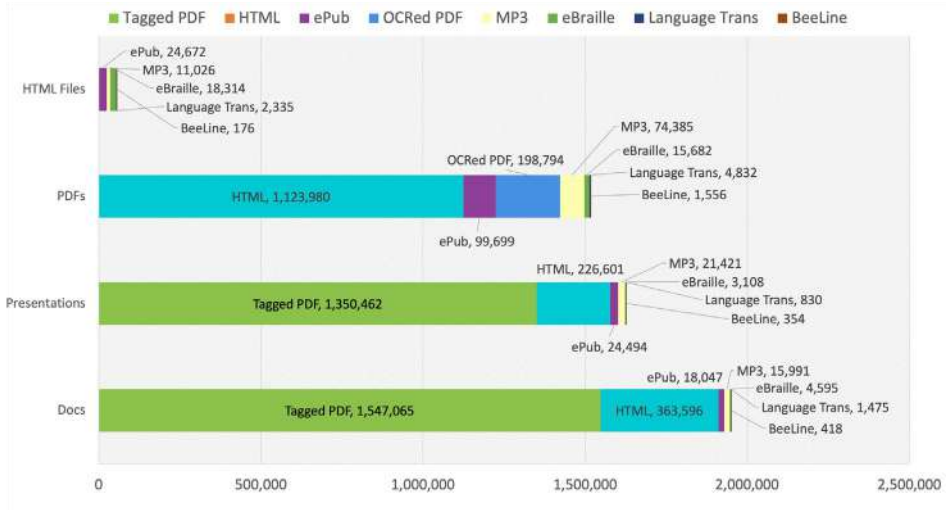
Total AF Activity during Start and End of Terms: All US Ally Users



Supporting Diverse Student Needs

- A culinary arts major with low vision reports using the **HTML format** because PDFs are not conducive for zooming in on a text. She also saves the HTML format in her browser to access her texts on different devices.
- A graduate student with learning disabilities reports using the **OCRed PDF** paired with the **MP3** because "bimodal presentation" benefits his comprehension.
- A commuter student with children at home reports downloading her content in **MP3** form so that she can review her materials during a long drive to campus.
- A student with diagnosed anxiety reports using the **HTML** format for a simpler, high-contrast text that is easier to read.

Total Downloads by File Type, F19 Term



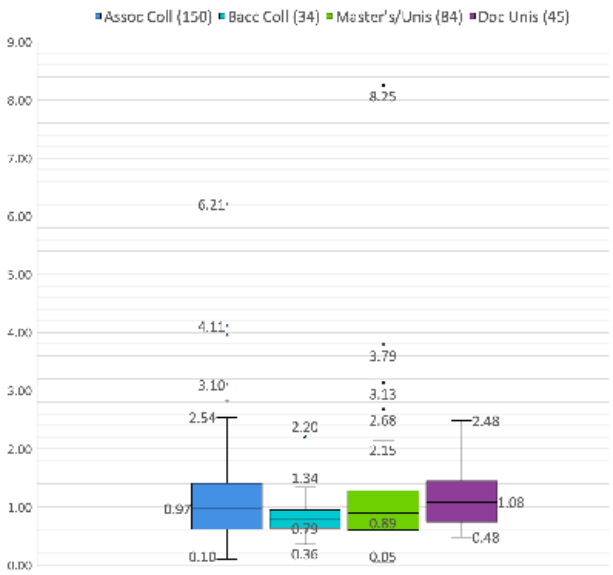
AF Downloads by Institution Type

The box plots to the right represent the number of downloads per FTE for the subset of 313 US institutions based on Carnegie Classification and Institution Size. The legend for each chart includes the number of institutions that fall in each category. For the Carnegie categories, Associate's Colleges are the most over-represented in the data set while Baccalaureate Colleges are the most under-represented. For the Institution Size categories, Small (2,501-7,486 FTE) and Smallest (299-2,495 FTE) are the most over-represented and Largest (25,978-58,180 FTE) and Large (15,243-25,106 FTE) are the most under-represented.

Comparing median downloads for Carnegie categories, Doctoral Unis have the highest download rate, **exceeding 1 download per FTE**, with Associate's Colleges slightly below at 0.97 downloads. Baccalaureate Colleges have the lowest download rate at 0.79 downloads, 0.29 downloads less than Doctoral Unis. Comparing the Institution Size categories, the disparity between the highest category (Medium) and lowest categories (Small and Large) is 0.14 downloads per FTE. While the uneven distribution across categories may contribute to the disparity in download rates, without additional data it is difficult to infer why Baccalaureate Colleges are the only grouping with a download rate below 0.85. The similar download rates across opposite categories (large-small; Associate's-Doctoral), however, may be an indicator that institution size and type do not influence the adoption or the perceived utility of the alternative formats by students.

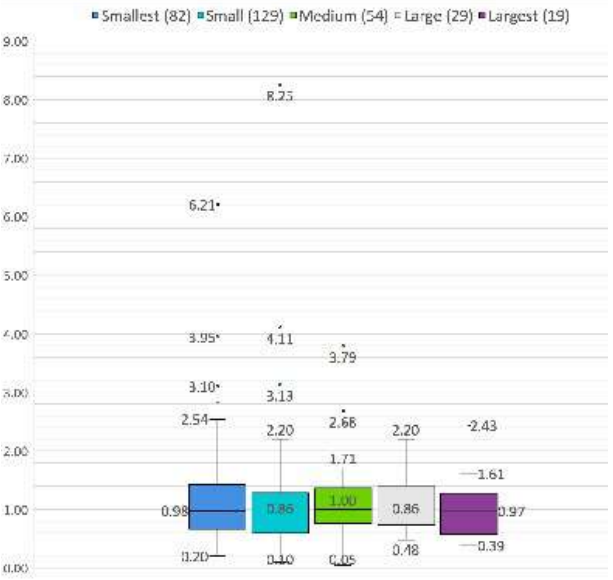
The similarities in AF usage also appear in the types of formats downloaded, where the **Tagged PDF and HTML formats account for between 89% and 93% of total AF downloads for all four Carnegie categories.** The difference in OCRed PDF downloads can be attributed to differences in the number of scanned PDFs in their F19 courses. Master's Colleges and Doctoral Unis had the highest percentage of scanned PDFs to total PDFs (17% and 18% respectively) and the largest percentage of OCRed PDF downloads, representing 5% of their total AF downloads compared to 2% for Associate's and 4% for Baccalaureate Colleges.

AF Downloads per FTE by Carnegie Class



* Downloads per FTE = Total Downloads / Total FTE

AF Downloads per FTE by Institution Size



Enhancing Learning Experiences and Study Practices with Alternative Formats

Of the 313 institutions, **139 exceeded one AF download per FTE and 19 exceeded two per FTE**. Considering Ally is relatively new on most campuses and some courses may have a limited amount of digital content, the download rates suggest that students are discovering the formats on their own and increasingly making them part of their learning. There is also an opportunity to further educate students on how to use the formats and how to leverage different modalities and reading practices in their study habits, such as using the ePub to engage deep reading comprehension practices. Instructors can take advantage of the formats as well, such as replacing their original scans with the OCRed PDFs to save students time downloading, or reviewing their lecture materials with the MP3 format to assess the clarity of their content.

Inclusive Learning Series

Research Insights from the Ally Community

Tools for Inclusive Course Design: Engagement with Accessibility Feedback

Abstract

Improving the accessibility of digital course content can help ensure students with disabilities have more equitable access to their course files as well as improve the learning experience for all students. Yet many instructors remain unaware about accessibility barriers in their courses and untrained in accessible content authoring practices. This paper examines engagement with a set of accessibility tools desgined to increase awareness about the accessibility of digital course files (Accessibility Indicators), deliver guidance about how to correct accessibility issues (Instructor Feedback), and provide insight into the prevalence and severity of issues across a course (Course Accessibility Report).

Key Findings

- "Low" score indicators were the most commonly clicked of the four indicator types, perhaps because the most common file types in Learning Management System courses - PDFs and Images - had the lowest average starting accessibility score. The conversion rate between clicking an indicator and attempting to fix a file through the Instructor Feedback varied significantly among file types - Images had the highest conversion rate at **87%** compared to PDFs with the lowest conversation rate at **24%**. During the Spring 2020 term, **683,638** indicator clicks occurred through the course context while **208,417** indicator clicks occurred through the Course Accessibility Report (CAR).
- The percentage of files altered that resulted in an improved accessibility score also varied by file type - Images had the highest success rate at **88%** compared to Word Docs with the lowest success rate at **76%**. Presentations were the file type with the least improvements, but also had the highest average starting accessibility score. The Course Accessibility Report (CAR) accounted for **26%** of all 2020 files improved, though the CAR accounted for an average of **50%** of file improvements in the 100 courses with the most files improved.

Instructor Feedback Engagement

1,807,560 Accessibility Indicator clicks in one year (May 2019 - May 2020)

823,322 Files altered through the Instructor Feedback in one year

692,564 Files with an improved accessibility score in one year

73,295 Launches of the Course Accessibility Report in Spring 2020

Inclusive Learning Series

Research Insights from the Ally Community

Evaluating Engagement and Impact of Accessibility Feedback Tools in LMS Courses

Study Context

Disability support and accessibility teams have historically been tasked with ensuring that students with disclosed disabilities have access to course content that meet their specific learning needs. Despite the best efforts of these teams to support their students, challenges to such a "reactive" approach to accessibility include:

- Ensuring students with disclosed disabilities have timely access to their materials when instructors modify and update their courses
- Upwards of 66% of students who may qualify for accommodations do not disclose they have a disability

In addition to these challenges, a growing interest in Universal Design for Learning, increased student usage of mobile devices, and research into the benefits of accessible content to all learners are driving institutions to shift to a more proactive model focused on inclusion. To catalyze this shift, institutions require tools that help them increase awareness and scale professional development about accessibility issues and accessible content authoring. This paper examines usage of the Blackboard Ally accessibility solution, focusing on user engagement with accessibility score indicators and accessibility outcomes using the Instructor Feedback and Course Accessibility Report.

Data Set and Research Questions

The data set includes user events associated with Ally's accessibility tools over a 12-month period (May 2019 to May 2020). These events include:

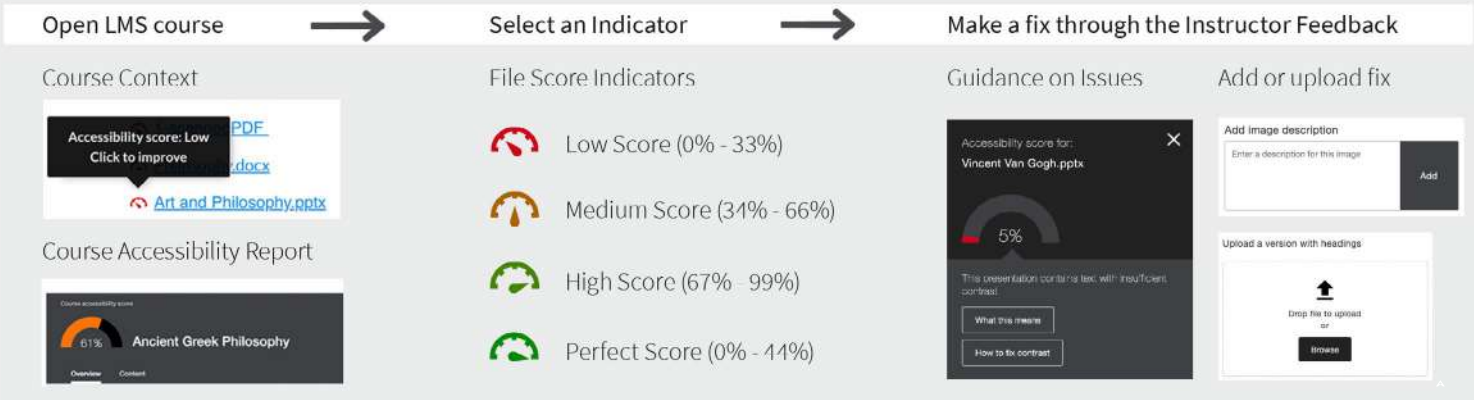
- Clicking an Accessibility Indicator in a course
- Launching the Course Accessibility Report
- Attempting to fix a file through the Instructor Feedback

Users in this paper are defined as anyone at an institution with a course editing privilege within a Learning Management System (LMS) course. This may include faculty, instructional designers, administrators, and accessibility specialists. Over 550 U.S. institutions registered a "File Altered" event in the database, but the data set focuses on a subset of 371 U.S. colleges and universities with Ally enabled in a majority of LMS courses. While Ally reports on issues with HTML files uploaded to the LMS and WYSIWYG content created in the LMS as well, the analysis focuses on engagement and success rates addressing issues with Images, PDFs, Word Docs, and Presentations, which also tend to have the most severe accessibility issues.

? *How does engagement with accessibility indicators vary by file type and tool?*

? *How do improvement rates in accessibility score vary by file type and tool?*

Workflow for Addressing Accessibility Issues



Initiating Accessibility Feedback

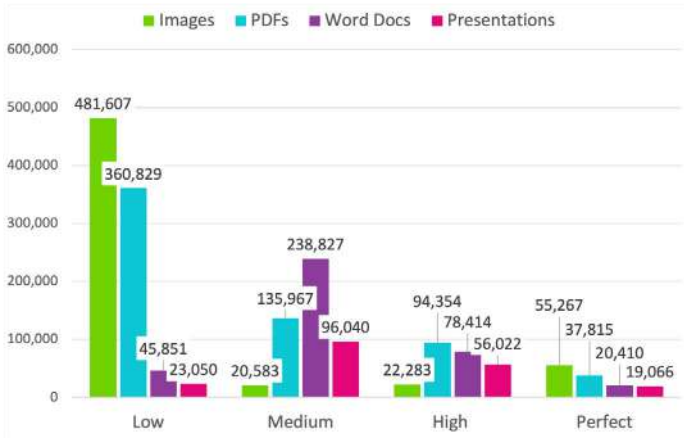
"Low score" red gauges accounted for **50% of all Indicator clicks**. Thenumber of low score Indicator clicks may reflect users' motivations to understand and address the most severe accessibility issues. The data also suggests that red Indicators are likely the most prevalent Indicator type in many courses. For the two most prevalent file types, **79% of images had a red indicator** due to missing descriptions and **59% of PDFs were either scanned or untagged**, also resulting in a red indicator. In the medium score category, Word Docs had an average file score in the "medium" range, and were **1.5 times more prevalent** in courses than presentations. Images were the most engaged file type with a "Perfect score," perhaps because image descriptions can be edited and qualitatively improved directly through the IF even after reaching a perfect score.

Starting in August 2019, institutions were able to add the Course Accessibility Report (CAR), which could then be launched by the user from the the course tools menu in the LMS. During the 2020 term, the **CAR was launched by 276 institutions in over 10,000 courses** , with an average of **6.7 launches per course**. **377 institutions** launched the CAR a total of **25 times or more**. Users engaged the "Issues List" on **42% of CAR launches,** which allows them to focus on files with a shared accessibility issue. By comparison, "Content List" was selected on **26% of launches,** which allows them to view files in order of accessibility score. In both cases, the most severe issues and lowest scoring files appear at the top of the list, also likley contributing to more clicks on files with red Accessibility Indicators.

Files Altered and Success Rate

PDFs and images made up 64% of total file content and accounted for **66%** of the total indicator clicks. The overall conversion rate between clicking an indicator and attempting to alter a file through the IF was **45.5%** (Note: conversion rate does not include files altered directly through the LMS). Conversion rate varied significantly between images (**87%**) and the other three file types (all between **24% and 27%**), not surprising given images tend to be the fastest issue to address. Since users self-report replacing inaccessible Word, PDFs, and PowerPoint directly through the LMS and not Ally, the conversion rate for those file types may be higher if access to the LMS data were available. **84% of the 832,322** files altered through the IF resulted in an improved accessibility score and none of the file types had a success rate lower than **75%** (Word Docs had the lowest success rate at **76%**).

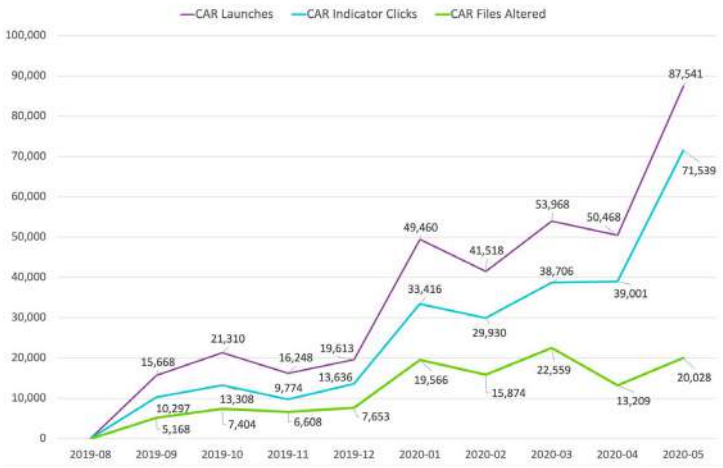
Total Indicator Engagements by Score: One Year



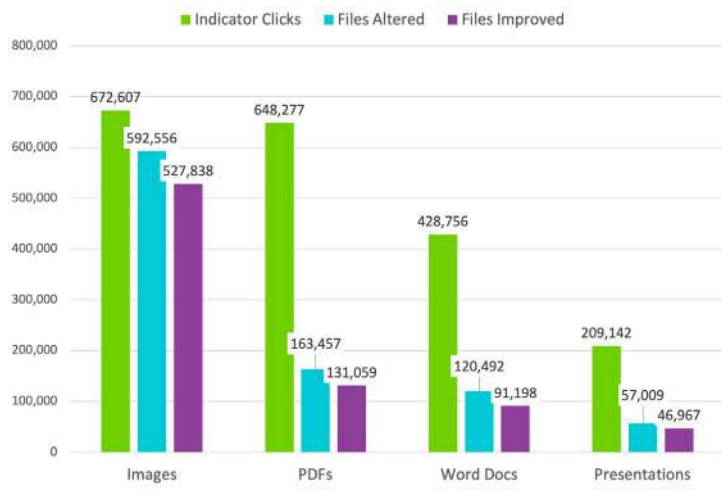
I go into the file menu and I just run down my files and look for all those green dashboards, and of course I want them to all be perfect.

- Dr. Barbara Heard, Atlantic Cape CC

CAR Launches and CAR Indicator Clicks: One Year



Total IF Engagement by File Type: One Year



PDFs had the lowest conversion rate and the second-lowest success rate, which at **80%** is still an encouraging success rate given the complexity of accessibility issues with PDFs. Images- identified in the CAR as "easiest" files to fix- had the highest success rate at **88%** and also saw the highest average increase per successful fix. From a random sample of 5,000 files improved:

- Images had an average starting score of **35.0%** and improved **56 percentage points**
- PDFs had an average starting score of **36.7%** and improved **48 percentage points**
- Word Docs had an average starting score of **62.6%** and improved **26 percentage points**
- Presentations had an average starting score **66.9%** and improved **23 percentage points**

Conversion rate and success rate also vary depending on whether the user engaged the file through the course context or through the CAR, illustrated in the table in the top-right. Indicators that appear next to files in courses are perhaps more prone to exploration than those accessed deliberately through the CAR, which may help explain the disparity in conversion rates between the two tools. Further, the breakdown of file types improved through the two tools reveals that images represented a larger percentage of fixes through the CAR, which would also contribute to a higher success rate.

- Percent of Images improved - CAR: 72%; Course: 50%
- Percent PDFs improved - CAR: 13%; Course: 21%
- Percent Docs improved - CAR: 7%; Course: 16%
- Percent of Presentations improved - CAR: 7%; Course: 13%

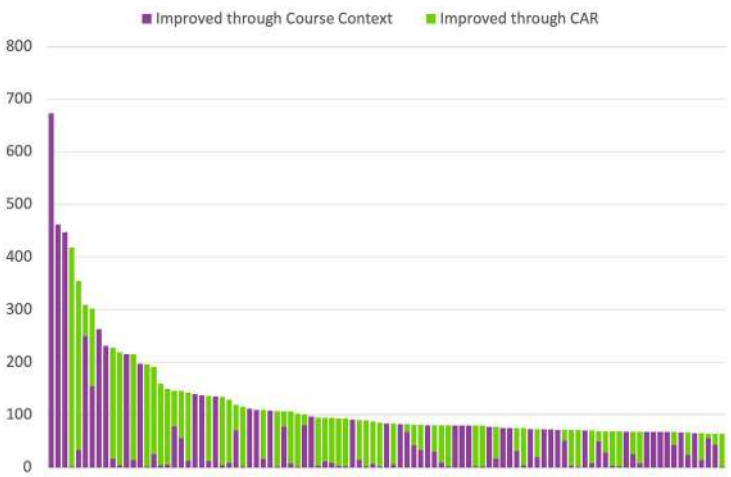
Of the **2,582 courses** with at least five files improved in March, the top-100 courses saw average of **49%** of files improved per course made through the CAR. For the remaining 2,482 courses, just **12%** of the improvements per course were made through the CAR.

Comparing Conversion and Success Rates: Terms and Tools

Term and Tool	Indicator Clicks (conversion rate to files altered)	Files Improved (success rate of files altered)
F2019 CAR	72,839 **(64.5%)**	42,251 **(89.9%)**
F2019 Course Context	385,314 **(38.5%)**	122,224 **(82.5%)**
S2020 CAR	195,414 **(72.2%)**	125,231 **(88.8%)**
S2020 Course Context	661,142 **(41.2%)**	224,920 **(82.7%)**

> ***Ally gets to the faculty where they are at, and gives them the information in small digestible bites, which is really important.***
>
> ***- Lucy Greco, UC Berkeley***

Comparing Files Improved through CAR and Course Context: Top 100 Courses with Most Files Improved



Making Inclusive Design an Integral Part of High-Quality Course Design

For many instructors just getting started with accessibility best practices, the presence of the Indicators next to their course files generates initial awareness about issues with their content. They can build on this initial awareness by navigating from the course context to the Course Accessibility Report, where they can more readily identify their most prevalent or impactful issues. Given evidence that the CAR plays a more prominent role in courses with more fixes, these course-level insights may aid in identifying a more efficient pathway forward to addressing those issues. By learning about accessible content authoring, instructors can fix issues with past content, but also apply those techniques when authoring new content. Such a proactive approach marks a culture shift where accessibility is no longer something addressed after-the-fact, but instead becomes an integral part of designing high qualiy learning experiences that benefit all students.

Blackboard

Inclusive Learning Series

Research Insights from the Ally Community

Accessibility Trends and Ally Usage: Doctoral Universities

Extended Abstract

Four-year research universities offer a variety of competitive degree programs delivered in face-to-face, hybrid, and fully online formats to students studying around the world. Beyond the rigors of academic study, students maintain busy schedules as student-athletes, student-workers, and participants in a variety of extra-curricular activities and social clubs. Having access to high-quality, flexible digital course content that works better with assistive technologies, mobile devices, and study tools can increase and improve engagement with their course content. Analyzing data collected from the Blackboard Ally software, this paper focuses on content accessibility and tool usage at "Doctoral-granting Universities" as defined by the Carnegie Basic Classification system. The data captured through the Ally tools include accessibility scores of Learning Management System content, student engagement with Alternative Formats of digital learning content, and faculty engagement with Instructor Feedback on accessibility issues in their courses.

Key Findings

- While the HTML content authored in the LMS in Fall 2019 courses had mostly minor accessibility issues, scoring on average around 98%, files uploaded into the LMS **scored on average around 40%**. Critical accessibility issues such as Scanned PDFs and Missing Image Description affected tens of thousands of files in Fall 2019 courses.
- Although PDF was the most prevalent file in LMS courses (most often downloaded as a mobile-friendly HTML format), Presentations and Word Docs respectively were the file types most frequently downloaded as an alternative format (most often as a Tagged PDF). Doctoral Universities had **a median of 1.08 downloads per Full Time Enrollment** during Fall 2019, and the number of downloads per downloader **increased from 2.17 to 2.75 from the start to end of term.**
- During a ten month period, the conversion rate between clicking an accessibility course indicator and attempting to fix a file through the Ally Instructor Feedback was 36% and **86% of files altered through the Instructor Feedback resulted in an improved accessibility score**. Images were the commonly fixed file type, followed by PDFs, Docs, and Presentations respectively. A subset of 20 institutions saw an average **overall improvement in Files score of 2.2 and 2.5 percentage points in a single term**, compared to only a three point improvement in five years found in a previous study.

Implications

Given the number of files with critical accessibility issues added to the LMS during 2019-20, a data-informed approach is essential to addressing issues at scale. While accessibility improvement with Ally appears accelerated compared to historical trends, insights from data can help universities take a more proactive, targeted approach that focuses resources on high-need areas to maximize the impact of that progress. Alternative Formats appear to have widespread usage by students across the university, and provide an immediate impact on access to flexible learning content without additional support from faculty or staff. The more immediate impact of on-demand Alternative Formats are complemented by sustainable progress on accessibility barriers, as demonstrated by the high rate of efficiency with which faculty improved the accessibility of their course files using the built-in guidance of the Instructor Feedback.

Inclusive Learning Series

Research Insights from the Ally Community

Accessibility Trends and Ally Usage: Doctoral Universities

Study Context

In recent years, digital accessibility and Universal Design for Learning (UDL) have emerged as key priorities in higher education. While many articles emphasize the benefits of accessibility and UDL to all students, there remains a lack of empirical insights into the extent of accessibility issues with course content in the Learning Management System (LMS) as well as adoption of UDL tools by faculty and students. Analyzing data collected from the Blackboard Ally software, this paper focuses on content accessibility and tool usage at "Doctoral-granting Universities" as defined by the Carnegie Basic Classification system.

Data Set and Research Questions

The data set includes 73 Doctoral Universities with Ally enabled in their LMS courses during the Fall 2019 term. Of the 73 universities, 32 fall in the "Highest Research" (R1) category, 21 in the "High Research (R2) category, and 19 in the "Moderate Research" (Doctoral/ Professional) category. The median Full Time Enrollment (FTE) of the 73 universities was 19,380, ranging from 1,937 FTE to 53,055 FTE. The data captured through the Ally tools include accessibility scores of LMS content, student engagement with the Alternative Formats, and faculty engagement with the Instructor Feedback.

? *How can an understanding of accessibility barriers and critical issues with digital course content inform institutional strategy?*

? *How do students make use of course content available in different modalities and formats?*

? *How do instructors use feedback in their courses to address accessibility issues with their course materials?*

Barriers to Inclusion: Critical Issues

The tables below include accessibility data from the Ally **Institutional Reports** for a subset of 35 medium to large doctoral universities across two FTE bands that recently adopted Ally. The "Files Score" and "WYSIWYG Score" are the average scores of files (PDFs, Word, PowerPoint, Images) and HTML content created using the LMS editor respectively in Fall 2019 courses. Each score approximates how closely the file or HTML item meets WCAG 2.1 AA standards that can be checked using automated tools. The "Total Files with Issue" column represents the average number of files in Fall 2019 courses with the stated accessibility issue. The percentage score is the total number of files with the issue out of the total number of files in Fall 2019 courses that could be affected by that issue.

Avg. Accessibility Scores and Critical Issues: Fall 2019 Courses

Content Type	10,000 FTE - 25,000 FTE	25,000 FTE - 55,000 FTE
Uploaded files	**41.6%**	**39.7%**
WYSIWYG content	**98.3%**	**98.9%**
Total Files with Issue (% of Files with Issue)	10,000 FTE - 25,000 FTE	25,000 FTE - 55,000 FTE
Scanned PDFs **(% of Total PDFs)**	10,340 **(18%)**	19,257 **(16%)**
Untagged PDFs **(% of Total PDFs)**	27,593 **(49%)**	61,569 **(52%)**
Docs Missing Headings **(% of Total Docs)**	25,328 **(24%)**	45,486 **(23%)**
Images Missing Description **(% of Total Images)**	31,654 **(80%)**	75,027 **(82%)**

Implications for Addressing Accessibility Barriers at Scale

Given the number of files with critical accessibility issues added to the LMS during 2019-20, a data-informed approach is essential to addressing issues at scale. Real-time insights empower institutions to improve remediation workflows, allocate resources strategically, and take a more proactive approach to supporting diverse student needs. Ally's **Institutional Report** provides five different analytics tools for tracking progress and measuring impact at both the issue-level and course-level. Reporting can help foster collaboration across campus units, such as library services, equity and inclusion, and disability support. Beyond just content accessibility, the course content breakdowns across LMS tools in the Report offer instructional design insights as well. With CSV exports and REST APIs, institutions can also aggregate their Ally data with LMS (including Blackboard Data) and institutional data.

Alternative Formats Usage

Ally automatically generates 8 different **Alternative Formats (AF)** of files uploaded to the LMS, and makes these available to all students in their courses. During the Fall 2019 term, there were **over one million formats downloaded** at Doctoral universities, and a median download rate of **1.08 downloads per FTE, with 9 universities exceeding 1.50**. While some of the universities represented in the data set deployed strategies to promote the formats to students, most commonly through an LMS announcement, others simply made the formats available and allowed students to discover them on their own.

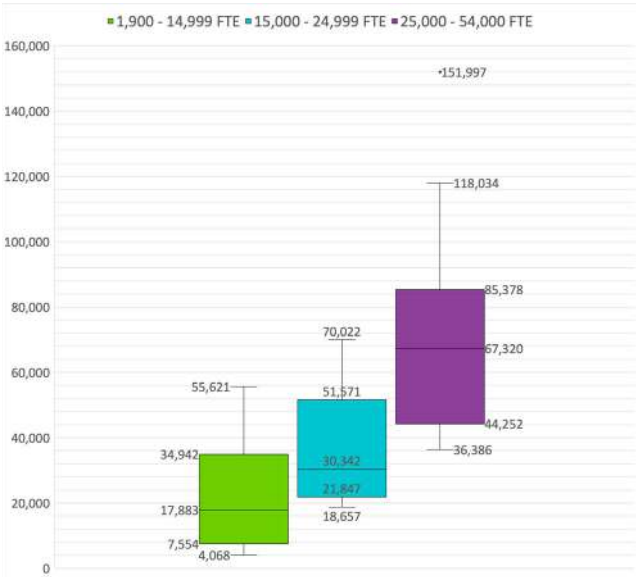
Weekly AF activity tends to reflect broader LMS usage, where engagement is highest at the start of the term, steadily declines during the term, and spikes back up toward the end of the term. During the Fall Term 2019, while the number of unique student downloaders decreased by 39% from peak start to peak end of term, the number of downloads per downloader **increased from 2.17 to 2.75 and the conversion rate between clicking the AF icon and downloading a format increased 12 percentage points.** When considering drop-out rate and other factors affecting the number of students engaged with the LMS at the end of term, the increase in downloads per students and conversion rate suggest the formats offer sustained value to many students.

Presentations were most commonly downloaded as an Alternative Format in Fall 2019 courses, even though there were three times more PDFs in those courses. 85% of Presentations and Word Docs were downloaded as Tagged PDFs, while 68% of AF downloads from PDF were HTML formats, 16% were OCRed PDFs from Scanned PDFs, and 8% were ePub formats.

- Presentations: **371,434 downloaded** (36% of total)
- Word Docs: **340,201 downloaded** (33% of total)
- PDFs: **305,428 downloaded** (30% of total)
- HTML files: **7,363 downloaded** (1% of total)

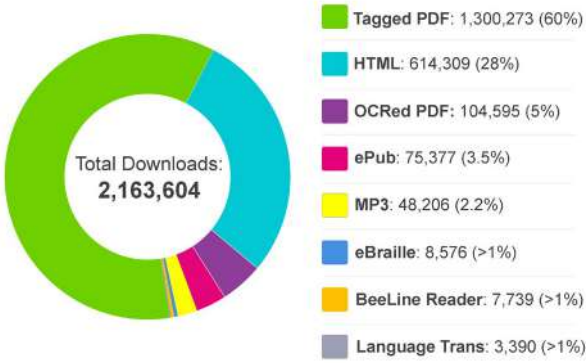
> ***Tools like Ally make us feel like we're independent learners. It gives us multiple text options so we can see what is most effective for the ways we learn.***
>
> ***- Andrew Phuong; Student, UC Berkeley***

AF Downloads for Doctoral Unis over 8 months



AF Downloads by Format type over 8 months

*BeeLine Reader and Language Translation were available in a limited number of courses



Instructor Feedback Usage

Ally's accessibility indicators and guidance along with the Course Accessibility Report provide feedback to instructors about the accessibility of their course files as well as instructions for fixing the issues. Ally records instances when instructors click on an indicator and when they attempt to fix a file through the **Instructor Feedback (IF)** panel. Over 12 months, the average number of files improved and range per size category were:

- 1K - 14K FTE: **600** (range of 44 to 1,614 files improved)
- 15K - 24K FTE: **2,380** (range of 398 to 10,688 files improved)
- 25K - 55K FTE: **2,274** (range of 99 to 7,131 files improved)

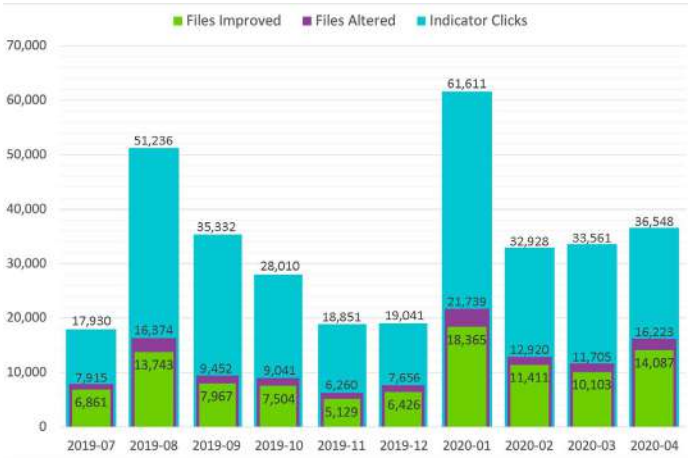
> ***I found this tool easy to use. I strive for accessibility but do not have access to readers or tools to check whether I have formatted my documents properly. This tool takes the guess work out completely.***
>
> ***- Faculty, University of South Carolina***

Images were the most common file type improved through the IF with the highest success rate (87%), followed by PDFs (77% success rate), then Word Docs (71%), and Presentations (81%). Because descriptions to images can be added directly through the IF, images are generally the most fixed file type.

Analyzing changes to the overall Files score of a subset of 20 universities with Ally turned on for at least one year reveals **average gains of 2.2 and 2.5 percentage points** between Fall 2018-19 and Spring 2019-20 terms respectively. By comparison, a previous data study of a random sample of 700,000 courses found an increase in Files score of just 3 percentage points over five years. Given the large number of files with severe accessibility issues and the slow pace of improvement historically, these initial gains appear promising.

IF Engagement over 10 months for 73 Universities

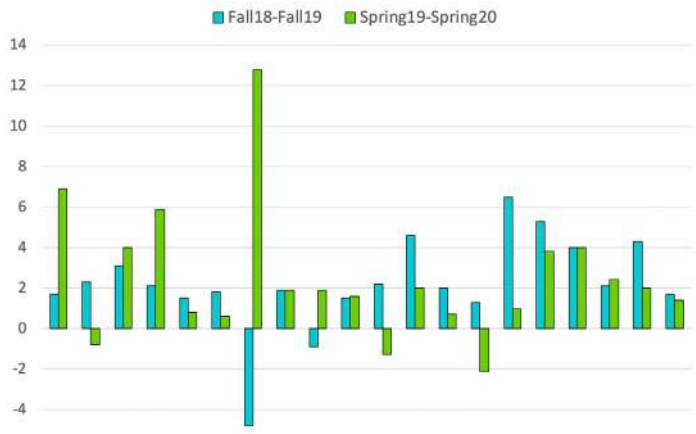
*April, 2020 includes 23 days



The conversion rate between clicking an indicator and attempting to fix a file through Ally was **36%.**

85% of files altered resulted in an improved accessibility score

Percentage Point Improvements in Files Score, Term to Term Comparisons for 20 Doctoral Unis



Reframing the Conversation around Accessibility

While "Alternative Formats" of learning materials have traditionally been reserved for students with disclosed disabilities, providing content in mobile-friendly formats, in multiple sensory modalities, and with improved usability can enhance the learning experience for *all* students. When institutions add Ally to their courses, they often see an immediate impact on students in download activity. With the Instructor Feedback, impact tends to be more gradual, as faculty with little accessibility experience take the initial steps to understanding the issues affecting their content. For time-pressed faculty, recognizing the benefits of the Alternative Formats and how the usability of their course materials affects student engagement can inspire them to make accessibility a greater priority in their course design.

Blackboard

Inclusive Learning Series

Research Insights from the Ally Community

Accessibility Trends and Ally Usage: Associate's and Technical Colleges

Abstract

Associate's and technical colleges serve a higher percentage of adult learners, first generation college students, minority students, low-income students, and students with disclosed disabilities than most four-year institutions. Because accessibility issues can affect the readability of content and limit their use on mobile devices and study tools, inaccessible content can impact opportunities for academic success for all students. In this paper, we explore accessibility and usage data collected through the Blackboard Ally software from 150 associate's and technical colleges during the Fall 2019 term. Analysis includes:

- Prevalence of critical accessibility issues with file content in Fall 2019 courses and progress on issues
- Student engagement and downloads of Alternative Formats of learning content in Fall 2019 courses
- Instructor engagement with Instructor Feedback in addressing accessibility issues with their course content

Key Findings

- The percentage of files with critical accessibility issues appears consistent across different size institutions, and an **average overall Files Score between 52.4% and 55.4%** suggests there are significant accessibility barriers in content across courses. Using the reporting to guide their strategy and policy, several colleges showed significant two-year improvements on critical issues.

- The median download rate of Alternative Formats per Full Time Enrollment (FTE) was **.99 for small colleges, .94 for medium colleges, and .85 for large colleges**. While unique student downloaders decreased 44% from start of term to end (likely due in part to an overall decrease in student engagement as a term progresses), the conversion rate between launching the Alternative Formats and downloading a file **increased 11 percentage points** while the number of downloads per student increased slightly from **2.72 to 2.80.** Of the **813,413,** 93% of the formats downloaded were Tagged PDFs and HTML files.

- The overall conversion rate between clicking a course accessibility indicator and attempting to fix a file through the Instructor Feedback was **41%, and 87% of the files altered resulted in an improved accessibility score**, with images being the most frequently fixed file type. The median number of files improved was **1,031 for large colleges, 298 for medium colleges, and 215 for small colleges**, though there was considerable range in the number of files improved within those categories.

Implications

Colleges that made the most progress addressing critical accessibility issues leveraged insights from the Institution Report to inform and guide their strategy, policy, and faculty support. While faculty can use the guidance in the Instructor Feedback to fix issues on their own, the wide range in files improved across colleges confirms the importance of adopting a plan with clear expectations and goals. Consistent with previous findings, Alternative Formats appear to have immediate uptake by students, indicating that flexible options for learning content has broad appeal to students.

Inclusive Learning Series

Research Insights from the Ally Community

Accessibility Trends and Ally Usage: Associate's and Technical Colleges

Study Context

Associate's and Technical Colleges are crucial access points to educational and career advancement for diverse learners, serving a higher percentage of adult learners, first generation college students, minority students, low-income students, and students with disclosed disabilities than most four-year institutions. Among the many challenges faced by these students throughout their journey in higher education, inaccessible, inflexible digital course content can be an imposing barrier to student achievement. Access to more usable content that works with asssistive technologies, literacy tools, and mobile devices can help build student confidence and set them on a pathway for future success. In this paper, we analyze how administrators, faculty, and students at associate's and technical colleges in the US are using the Blackboard Ally toolset in the Learning Management System (LMS)

Avg. Overall Accessibility File Score and Critical Issues

File Score and Issues	Small	Medium	Large
Overall Files Score	**55.0%**	**55.4%**	**52.4%**
Scanned PDFs **(% of Total PDFs)**	981 **(16%)**	2,236 **(15%)**	4,917 **(15%)**
Untagged PDFs **(% of Total PDFs)**	1,831 **(31%)**	5,501 **(34%)**	11,789 **(37%)**
Docs Missing Headings **(% of Total Docs)**	4,623 **(28%)**	11,584 **(29%)**	22,119 **(27%)**
Docs with Contrast Issues **(% of Total Docs)**	5,286 **(32%)**	12,518 **(31%)**	27,456 **(33%)**
Images Missing Description **(% of Total Images)**	6,646 **(77%)**	11,287 **(76%)**	32,656 **(76%)**

Data Set and Research Questions

The data set includes 150 Associate's and Technical Colleges with Ally enabled in their LMS courses during the Fall 2019 term. Colleges were organized into three primary categories based on Full Time Enrollment (FTE): Small Colleges (299-4,999 FTE), Medium Colleges (5,000-9,999 FTE); Large Colleges (10,000-19,999 FTE). Several larger colleges (20,000+ FTE) were excluded from the accessibility issues table but included in the Large category in the overall analysis. Data includes accessibility scores mined from the Ally Institutional Report, engagement with the Alternative Formats, and engagement with the Instructor Feedback.

? *How can an understanding of accessibility barriers and critical issues with digital course content inform institutional strategy?*

? *How do students make use of course content available in different modalities and formats?*

? *How do instructors use feedback in their courses to address accessibility issues with their course materials?*

Barriers to Inclusion: Critical Issues

The table to the left includes the average accessibility score for Fall 2019 courses for a subset of 99 small, medium, and large colleges. The "Files Score" represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) uploaded to the LMS. The score approximates how closely the file meets WCAG 2.1 AA standards that can be checked using automated tools. For the five accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue in Fall 2019 courses.

Comparing Critical Issues between 2017-18 and 2019-20: Four Colleges

College (size)	% Scanned PDFS 2017-18 **% 2019-20 (change)**	% Untagged PDFs **% 19-20 (change)**	% Missing Headings **% 19-20 (change)**	% Missing Descriptions **% 19-20 (change)**
College 1 (small)	11% **4% (-7)**	25% **13% (-12)**	22% **10% (-12)**	78% **58% (-20)**
College 2 (small)	4% **.7% (-3.3)**	26% **3% (-23)**	14% **3% (-11)**	70% **57% (-13)**
College 3 (medium)	15% **15% (0)**	38% **36% (-2)**	36% **29% (-7)**	94% **68% (-26)**
College 4 (large)	12% **11% (-1)**	35% **29% (-6)**	32% **20% (-12)**	86% **68% (-18)**

The table to the left compares the percentage of files with accessibility issues uploaded to the LMS during the 2017-18 and 2019-20 academic years for four colleges. These four colleges made above-average progress on critical issues using strategies described in the "Implications" section below.

Implications for Using Data to Drive Decision-Making

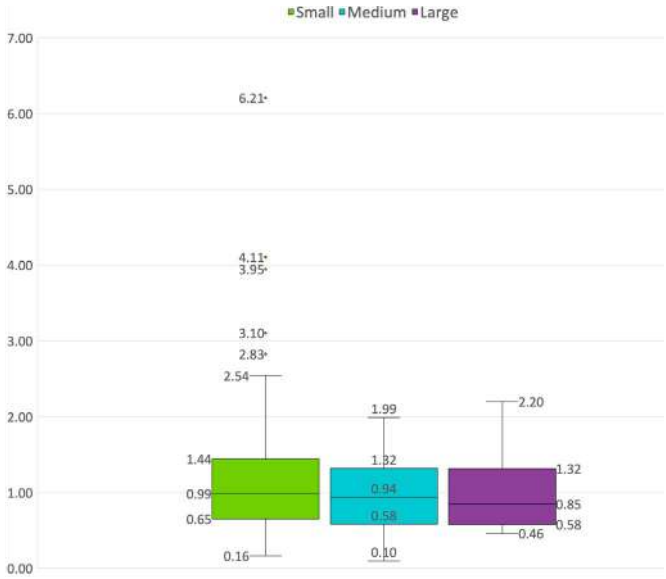
During their early efforts to improve the accessibility of their courses, Michelle Perkins, Director of Academic Technology at Atlantic Cape Community College, faced a data challenge: **"Using the Microsoft Office checkers, there wasn't enough analytics behind that in order to see what was really happening at the school."** Because instructors are continuously updating their course content, campuses need real-time insights into course accessibility across the LMS. Colleges that have made the most progress during their time with Ally have leveraged data available in their Institutional Report to inform campus-wide accessibility campaigns, target faculty training and support, identify high-impact courses, and generate buy-in from academic leadership.

Alternative Formats Usage

During Fall 2019, **28 of the 150 colleges exceeded 1.5 AF downloads per FTE and 10 exceeded 2 AF downloads per FTE.** Small colleges had the highest median download rate of the three size categories, .14 downloads higher than the large colleges. While it is difficult to infer the significance of that disparity, it is worth noting that when comparing downloads of different sized institutions across all Carnegie categories, the largest disparity between any two categories was also .14. The median total AF downloads for each category were:
Small Colleges: 2,188 with a high of 15,115 total downloads
Medium Colleges: 6,310 for with a high of 13,269 total downloads
Large Colleges: 14,163 with a high of 56,591 total downloads

Weekly engagement with the Alternative Formats over the Fall 2019 term appears consistent with previous findings, where activity reflects broader LMS engagement with a peak at the start of term, slow decline during the term, and uptick at end of term. Comparing the start peak and end peak, the number of unique student downloaders decreased by 44%, compared to a 32% decrease among all Carnegie categories. During the term, the conversion rate between clicking the AF icon and downloading a format **increased from 65% to 76%**, though the number of downloads per student **increased only slightly from 2.72 to 2.80** (2.8 was also the end peak downloads for Doctoral Universities).

AF Downloads per FTE during Fall 2019 Term



We have students with emotional disorders, and any level of frustration as far as being able to access something, they just quit. When they use Ally and see that it is easier, it's more accessible, they don't feel so defeated.

– Sarah Bryan,
College of DuPage, Case Manager

Although PDFs were the most prevalent file type in Fall 2019 LMS courses across all Carnegie Categories, Word Docs were most common for Associate's Colleges, perhaps contributing to a slightly higher percentage of Tagged PDF downloads compared to other institution types. Consistent with previous findings, **Tagged PDF and HTML downloads represent around 93% of all AF downloads**. For a subset of colleges with a Fall term in their LMS:

- **11K OCRed PDFs** were downloaded from 175K Scanned PDFs
- **270K Tagged PDFs** were downloaded from 2M Docs and Presentations
- **122K HTML files** were downloaded from 3M Docs, Pres., and PDFs

Instructor Feedback Usage

Ally's Instructor Feedback (IF) and Course Accessibility Report provide actionable insights and guidance about the accessibility of course files in the LMS. The **average conversion rate between clicking the accessibility icon and altering a file through the IF during the Fall 2019 term was 41%**. The bar graphs to the right files altered and improved by file type sduring the Fall 19 term. Note: Files altered data is limited to actions within the IF and do not include files altered directly through the LMS.

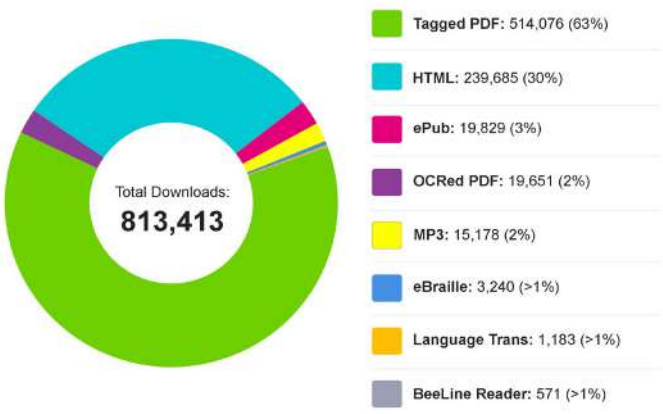
The median number of files altered per 2019 course was **.40 and 17/111 colleges exceeded 1 file altered per course** (compared to 4 AF downloads per course). The median number of files improved and range per size category were:

- Small: **215** (range of 13 to 4,227 files improved)
- Medium: **298** (range of 116 to 4,495 files improved)
- Large: **1,031** (range of 138 to 25,094 files improved)

Instructors can address accessibility issues within the course at the file level, or they can access their Course Accessibility Report (CAR; introduced August 10th, 2019) for an overview of issues. The CAR was launched **18,357 times across 89 colleges, and 21% of total files altered were through the CAR dashboard** (one large college represented 66% of those launches and 54% of those files altered).

Total Formats Downloaded by Type: Fall 2019

Note: BeeLine Reader and Language Translation were available in a limited number of courses



I have discovered that once you change your mindset to an all-inclusive learning environment, it is exponentially easier to create instructional materials than doing things the old way.

– Instructor, Technical College System of Georgia

Total Files Altered by File Type and Total Files Improved

Building a more Inclusive Campus Culture from the Ground-up

Although the integration of the Instructor Feedback within course workflows provides instructors with tools to develop accessible authoring skills on their own, the disparity across colleges in the number of files improved suggests institutional culture and accessibility policy influence its overall usage. By using the Institutional Report to proactively address areas of need and allowing students to take immediate advantage of the Alternative Formats, college leaders can begin the journey to a more inclusive campus while they develop a clearer understanding of policy and resource needs. With analytics to track progress, such a ground-up approach can allow faculty and student champions to emerge as voices of influence, and help generate collective buy-in around a strategy and policy that fits the culture and goals of the college.

Blackboard

Inclusive Learning Series

Research Insights from the Ally Community

Accessibility Trends and Ally Usage: Master's Colleges and Universities

Abstract

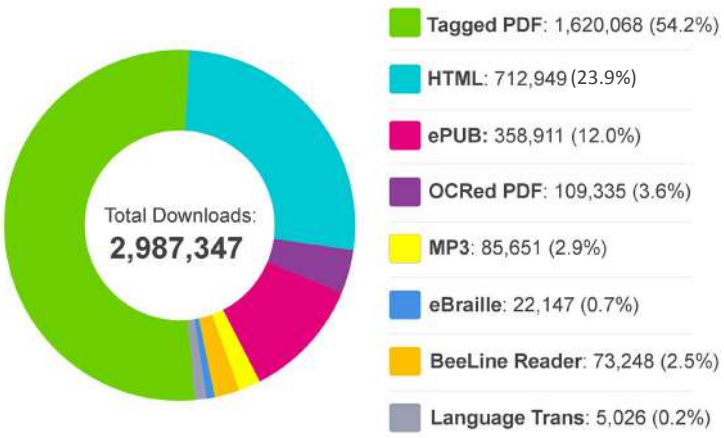
Master's College and Universities represent a large segment of higher education and serve a diverse student population. Because accessibility issues can affect the readability of content and limit their use on mobile devices and study tools, inaccessible content can impact opportunities for academic success for all students. In this paper, we explore accessibility data and usage data collected through the Blackboard Ally software from 144 Master's Colleges and Universities with Ally enabled in the Fall 2019 term. Analysis includes:

- Accessibility issues with digital file content added to courses during the 2019-2020 academic year
- Student engagement and downloads of Alternative Formats of learning content from Fall 2019 through December 2020
- Instructor engagement with accessibility feedback in their courses from Fall 2019 through December2020

Key Findings

- With an overall average files score below 50%, institutions face challenges meeting the needs of students with disclosed disabilities as well delivering high-quality, flexible digital content for all students. Schools that made the most progress with Ally over four years have been able to **increase their average files score over 16 points.**
- Alternative Format downloads have increased term to term since Fall 2019 due to increased awareness, new product capabilities, and the transition to remote instruction. **On average, students downloaded over 5 formats during Spring 2020, with over 11,000 students downloading 16 or more formats.** The breakdown of formats downloaded suggests students may prioritize more mobile-friendly formats.
- Over 50% of instructor engagements with accessibility feedback were on "low score" files, not surprising given the prevalence of files with critical accessibility issues. PDFs were the most commonly engaged file type, but images were the most frequently addressed. Overall, **there was a 45% conversion rate between engaging the feedback and attempting to address the accessibility issue, and an 84% success rate** improving the accessibility of the file.

Breakdown of Alternative Formats Downloaded in 2020



Alternative Format downloads per Full Time Enrolled Student: Fall 2019 and Spring 2020

Inclusive Learning Series

Research Insights from the Ally Community

Accessibility Trends and Ally Usage: Master's Colleges and Universities

Study Context

Master's Colleges and Universities represent a large segment of higher education, offering a variety of undergraduate and post-graduate programs to local, national, and international students. They serve a diverse student population, including many first generation students, minority students, low-income students, and students with disclosed disabilities. Inaccessible, inflexible digital course content can amplify existing equity and access issues as well as impact engagement for all students. More usable, flexible digital content that works with asssistive technologies, study tools, and mobile devices can help ensure students have access to digital content that meets their needs. In this paper, we analyze how administrators, faculty, and students at Master's Colleges and Universities in the U.S. are using the Blackboard Ally toolset in the Learning Management System (LMS) to improve the accessibility and usability of their digital content.

Avg. Overall Accessibility File Score and Critical Issues

File Score and Issues	Small	Medium	Large
Overall Files Score	**48.0%**	**46.5%**	**45.8%**
Scanned PDFs **(% of Total PDFs)**	5,102 **(16%)**	14,036 **(17%)**	30,633 **(15%)**
Untagged PDFs **(% of Total PDFs)**	13,566 **(41%)**	35,136 **(43%)**	92,642 **(44%)**
Docs Missing Headings **(% of Total Docs)**	19,798 **(27%)**	46,075 **(26%)**	108,436 **(25%)**
Docs with Contrast Issues **(% of Total Docs)**	24,884 **(34%)**	59,394 **(33%)**	152,020 **(35%)**
Images Missing Description **(% of Total Images)**	24,007 **(81%)**	53,012 **(82%)**	120,860 **(83%)**

Data Set and Research Questions

The data set includes 144 Master's Colleges and Universities with Ally enabled in their LMS courses during the Fall 2019 term. Colleges and universities were organized into three primary categories based on Full Time Enrollment (FTE): Small Colleges (750-7,500 FTE; 86 schools), Medium Colleges (7,501-15,000 FTE; 42 schools); Large Colleges (15,001-39,000 FTE; 16 schools). Accessibility data were mined from the Ally Institutional Reports, and include course content added to courses between July 2019 and May 2020. Usage data of Alternative Formats and Instructor Feedback include engagement between August 2019 and December 2020.

? *How can an understanding of accessibility barriers and critical issues with digital course content inform institutional strategy?*

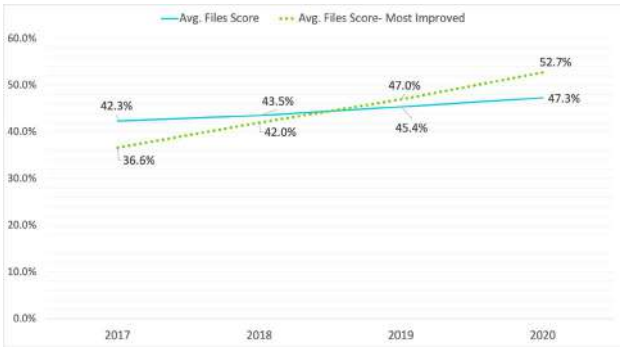
? *How do students make use of course content available in different modalities and formats?*

? *How do instructors use feedback in their courses to address accessibility issues with their course materials?*

Barriers to Inclusion: Critical Issues

The table to the left includes the average accessibility score for institutions during the 2019-2020 academic year. The "Files Score" represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) uploaded to the LMS. The score approximates how closely the file meets WCAG 2.1 AA standards that can be checked using automated tools. For the five accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue uploaded to courses during the 2019-2020 academic year.

Average Overall Files Score over Four Years Compared to Average Files Score of Top-25 Most Improved



Over four years, the average files score for Master's Colleges and Universities increased five percentage points (42.3% to 47.3%). However, the 25 schools that made the most accessibility progress saw an average improvement of 16.1 percentage points (36.6% to 52.7%). Schools that have made the most progress with Ally have effectively leveraged Ally data and Instructor Feedback to implement a scalable, sustainable content remediation strategy.

Implications for Using Data to Drive Decision-Making

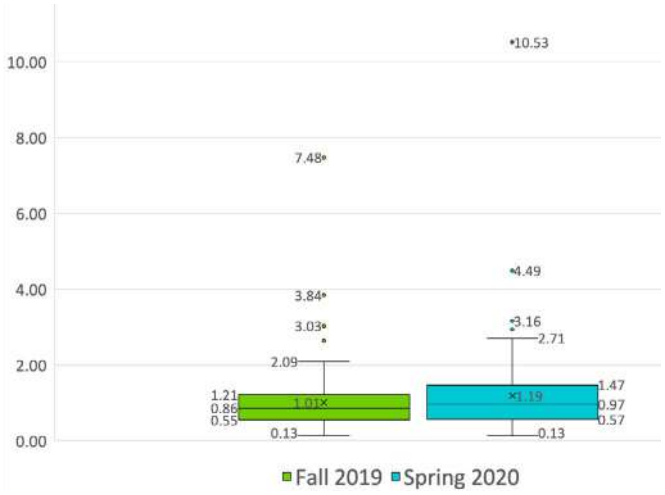
Schools that have made the most progress during their time with Ally have leveraged data available in their Institutional Report to inform campus-wide accessibility campaigns, target faculty training and support, identify high-impact courses, and generate buy-in from academic leadership. With real-time insights into accessibility data across their LMS, Chico State University estimates they have **decreased remediation turnaround time by 25%.** Grand Valley State University even used accessibility data to organize an accessibility competition between academic departments, helping motivate faculty to address accessibility issues through gamification and a small scholarship award.

Alternative Formats Usage

The mean average alternative format downloads per FTE increased nearly 18% between Fall 2019 (1.01) and Spring 2020 (1.19). During Spring 2020, **23.6% of schools exceeded 1.5 downloads per FTE**. The growth in downloads between terms may be the result of increasing awareness among students as well as due to the transition to remote instruction during the COVID-19 pandemic. The average total AF downloads in Spring 2020 for each category were:
Small Schools: 5,2510 with a high of 44,222 total downloads
Medium Schools: 12,553 for with a high of 42,660 total downloads
Large Schools: 17,199 with a high of 35,345 total downloads

During the Spring 2020 term, 163,000 students downloaded an average of 5.3 alternative formats, while **over 11,000 of those students downloaded over 16 formats during the term.** The conversion rate between clicking the AF icon and downloading a format **increased from 68% to 72% from the start to end of term, consistent with previous findings where the conversion rate increases as students become more familiar with the icon**. Conversely, total downloads and unique number of users who download a file also tends to decrease during a term, as evidenced in both the Fall 2019 term the Fall 2020 term(pictured below). However, during the Spring 2020 term, total downloads and unique downloads in many cases actually increased. Again, the transition to remote instruction and overall increase in digital content in the LMS likely contributed to this trend in usage.

Alternative Format downloads per Full Time Enrolled Student: Fall 2019 and Spring 2020



> ***A student with children explained how access to the audio alternative formats "gave her part of her life back" because it allowed her to listen and review course materials during her long commute to campus.***
>
> ***- Jeremy Olguin, Chico State University***

Of the 2.95 Million Alternative Formats downloaded in 2020 by Master's Colleges and Universities, 54% of downloads were Tagged PDFs from Word and PowerPoint Documents. Of the 692,889 PDFs downloaded as an alternative format, 71% were mobile-friendly HTML formats and 15% were OCRed PDFs from scans.

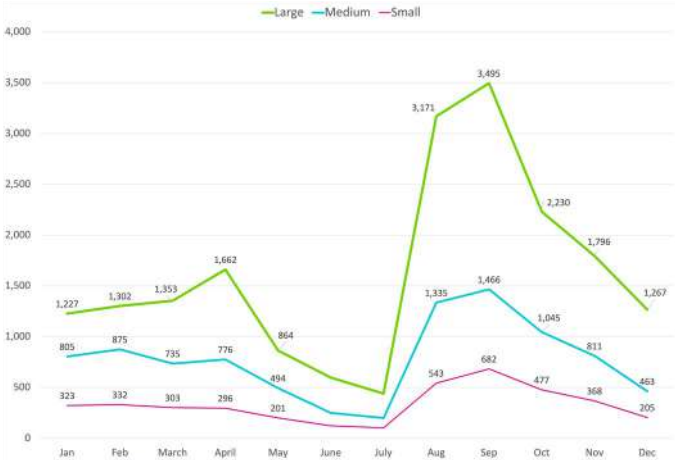
In August 2020, Ally introduced the ability to download Alternative Formats from WYSIWYG content created in the LMS. This new capability likely contributed to an overall increase in downloads in Fall 2020, as well as a significant uptick in ePUB formats and BeeLine Reader formats.

Instructor Feedback Usage

Ally's Instructor Feedback (IF) and Course Accessibility Report provide actionable insights and guidance about the accessibility of course files in the LMS. The **average conversion rate between clicking the accessibility icon and altering a file through the IF in 2020 was 45%** and the **average success rate of files altered that resulted in an improved accessibility score was 86%.** Consistent with previous findings where PDF was the most common file type in courses, the IF was engaged most for PDF files (38% of all indicator clicks). Low score "red indicators" were also most frequently engaged, accounting for over 52.5% of all indicator clicks (medium score indicators were second most engaged at 27% of all indicator clicks) Also consistent with previous findings, images were the most frequently altered file through Ally (56% of all files altered). Word Docs had the lowest success rate of the four file types with 75% of altered files resulting in an improved score, suggesting that instructors are successfully addressing accessibility issues across all file types at a relatively high rate.

Instructors can address accessibility issues within the course context, or through their Course Accessibility Report (CAR), which provides an overview of issues. In 2020, the CAR was launched **52,058 time times across 87 schools. Over 18,000 files were altered through the CAR, accounting for 18.7% of all files altered.**

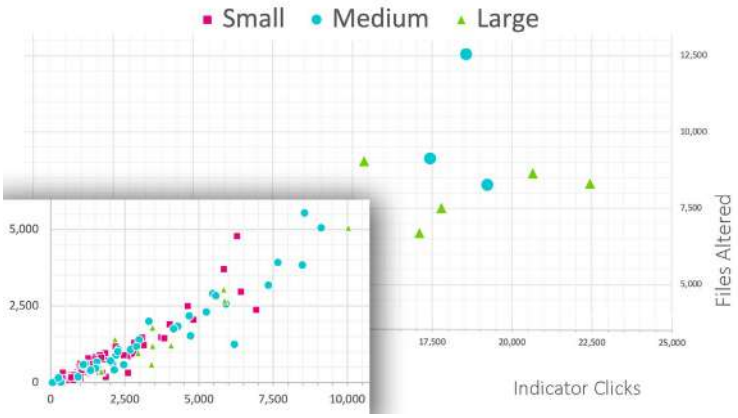
Avg. Number of Unique Users per Institution who downloaded an Alternative Format by Month: 2020



Ally's indicators provide a much larger cultural shift- a shift away from the idea of meeting a standard required by law to a more equitable accommodation for all. In a broader sense, they signify that there is work to be done by all of us at the university to help create pathways of inclusion.

– Hunter Bridwell, Grand Valley State

2020 Indicator Clicks (x-axis) and 2020 Files Altered through Ally (y-axis) by Institution



Impacting Inclusion for Students and Instructors

Given the prevalence of files with a "low accessibility score," the high success rate for faculty using the Instructor Feedback to improve the accessibility of their course content is an encouraging sign that Ally helps institutions make scalable, sustainable progress on inclusive course design. For accessibility issues that may pose challenges for faculty, institutions can anticipate those issues using Ally's Institutional Report for proactive, targeted support. Increased awareness about the availability of the Alternative Formats and increased opportunity for downloading the formats appear to have contributed to an overall increase in downloads term to term. For students downloading over 16 formats in a single term, the Alternative Formats seem to play a significant role in their learning.

Inclusive Learning Series

Research Insights from the Ally Community

Fix Your Content Day: An Impact on Inclusion for GAAD 2020

May 21st, 2020 marked the 9th annual **Global Accessibility Awareness Day** (GAAD) and the first ever Blackboard Ally **Fix Your Content Day** challenge. Colleges and universities enrolled in the challenge to see which institution could improve the accessibility of the most course files using Blackboard Ally. In the lead up to the challenge, institutions planned their strategy and prepared for the day.

When the clock struck May 21st in the first timezone on Earth (Kiribati), the global Leaderboard launched and the competition began. Leveraging usage data from Ally, the Leaderboard ranked each participating institution by their total number of files improved out of their total number of students. The Leaderboard also tallied the total number of files improved across all Ally users. The challenge lasted until May 21st ended in the last timezone on Earth, at which point, the winning institutions were announced.

Fix Your Content Day Numbers

425+ Institutions registered at least one file improved globally

4,882 Courses with at least one file improved

59 Institutions represented on the Leaderboard

5 Continents, 6 Countries, and 18 U.S States participated

57,252 Total files improved (82.5% of fixes by Leaderboard participants)

2,603 Avg. files improved for Top-15 Leaderboard finishers

.76 Avg. files improved per student for Top-15 Leaderboard finishers

4,205 Files improved in one peak hour and **over 1.5** per second

45,329 Images improved

5,259 PDFs improved

4,729 Word Docs improved

1,935 Presentations improved

Fix Your Content Days Champion Clubs

Diamond Club

(>1.4 fixes per student or >4,000 fixes)

- Coastal Pines Technical College (Georgia, USA)
- Oconee Fall line Technical College (Georgia, USA)
- York St. John University (United Kingdom)
- California State University, Chico (CA, USA)

Gold Club

(>1 fixes per student or >2,000 fixes)

- Medical University of South Carolina (S.C., USA)
- Lanier Technical College (Georgia, USA)
- California State University San Marcos (CA, USA)
- Utah State University (Utah, USA)
- Southern Crescent Technical College (Georgia, USA)

Silver Club

(>.5 fixes per student or >1,000 fixes)

- Charles Darwin University (Australia)
- Concordia University Texas (Texas, USA)
- Northwest Florida State College (Florida, USA)
- Augusta Technical College (Georgia, USA)
- Southern Regional Technical College (Georgia, USA)
- Texas A&M International University (Texas, USA)
- British University in Dubai (United Arab Emirates)
- Coastal Carolina University (S.C., USA)

Bronze Club

(>.1 fixes per student or >500 fixes)

- McDowell Technical Community College (N.C., USA)
- University of North Dakota (N.D., USA)
- College of DuPage (Illinois, USA)
- University of Houston (Texas, USA)
- Riverside Community College District (CA, USA)
- Wiregrass Georgia Technical College (Georgia, USA)
- Wichita State University Tech (Kansas, USA)

Fix Your Content Day Grand Champions

Most fixes per student

1	Coastal Pines Technical College (3rd in total fixes)	1.98
2	Oconee Fall Line Technical College	1.41
3	Lanier Technical College	1.40

Most total fixes

1	California State University, Chico	6,023
2	York St. John University	4,549
3	Medical University of South Carolina (4th in total fixes)	3,549

Regional Champions

North America

Coastal Pines Technical College

Middle East

British University in Dubai

Latin America

Universidad Carlos Albizu

Australia

Charles Darwin University

Europe

York St. John University

State System Champion

Technical College System of Georgia

Exploring the Effects of a Global Leaderboard on Ally Usage

Gamifying Accessibility

Motivating desired behaviors through gamification elements such as achievement badges and competitive leaderboards has become a common engagement strategy in digital applications. In an effort to further motivate users to address accessibility issues with course content, the **Fix Your Content Day** challenge implemented a global Leaderboard that visualized data events from Blackboard Ally to spark a competition among participating institutions to "fix the most files through Ally." Each time a user successfully improved the accessibility of a course file during the 48 hours of GAAD (counting all time zones), their institution received one point on the Leaderboard. To account for institution size, each institution was ranked by their total number of files improved out of their total number of students. This paper analyzes how the presence of the Leaderboard influenced engagement with Ally's Instructor Feedback tools by comparing data events during the Fix your Content Day challenge with the same data events over the prior year.

? *How did the Fix your Content Day challenge and Leaderboard influence engagement with Ally's Instructor Feedback tools?*

? *How did the Fix your Content Day challenge impact accessibility at the participating institutions?*

Hourly Rate of Files Improved during the Challenge: Total Fixes

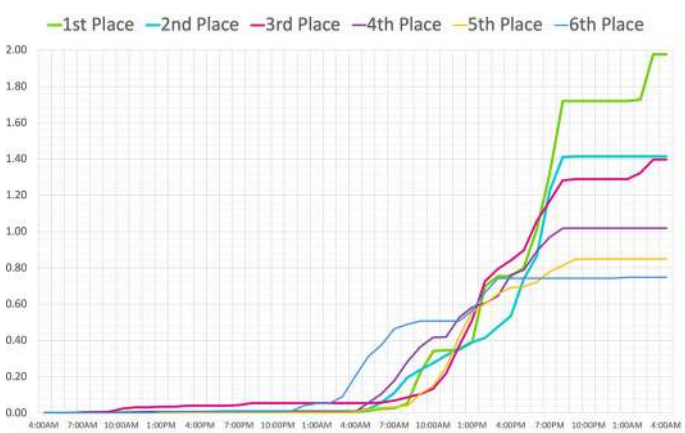
*All times reported in U.S. Pacific Time

Assessing the Scale of Impact

The line graph represents the overall hour by hour files improved during the challenge, with a peak of **4,205 files improved** on May 21st at 2PM PDT (one hour). By comparison, the average number of files improved per day (24 hours) during 2020 was **3,331**. The prior record for most fixes in a span of 48 hours was **11,083 files improved** set in April 2020, compared to the **57,252 files improved during the challenge.** Institutions that finished in the top-15 of the Leaderboard rankings had an average total of **810 files improved** between January 1st and May 5th, 2020. During the challenge, those same 15 institutions had an average of **2,603 files improved**.

Given that 81% of the participating institutions were in U.S. time zones, the rise and peaks over the 50 hours mostly align with standard business hours, except for the sudden surge in activity at 7PM on the 21st. Whereas hourly engagement with the Instructor Feedback on a typical day tends to steadily decline after 12PM, the burst in activity after standard business hours is evidence that the desire to achieve a high ranking on the Leaderboard motivated engagement beyond the typical work day. This "after hours" commitment is especially evident in the first place finisher, with peak activity after 10PM (their local time) and final burst of activity at 6AM (their local time) to ensure the victory. Remarkably, the fourth place finisher had 16 straight hours with at least five files improved, **averaging 220 files fixed per hour** during their steady climb into the top-5.

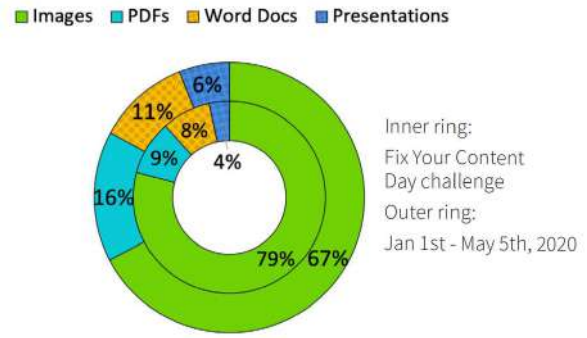
Cumulative Files Improved per Student each Hour of the Challenge: Top-6 Finishers



Effect on File Remediation Practices

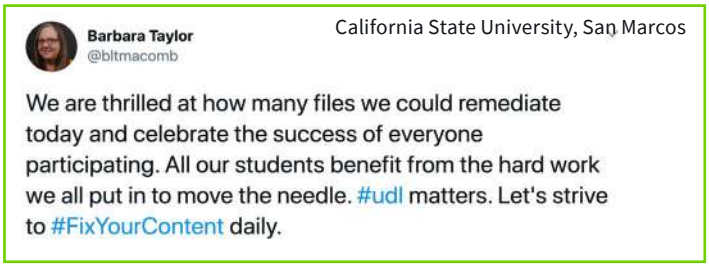
The number of fixes and hours spent fixing compared to previous time periods both suggest that the challenge had a significant impact on engagement. Given gamification elements tend to reward quantitative achievement without qualitative oversight, it is important to consider how the challenge and Leaderboard may have shifted existing file remediation practices. The donut charts below illustrate the percent breakdown of the types of files improved during the challenge compared to the previous four months.

Comparing Percentage of Files Improved: Fix Your Content Day and Previous Four Months

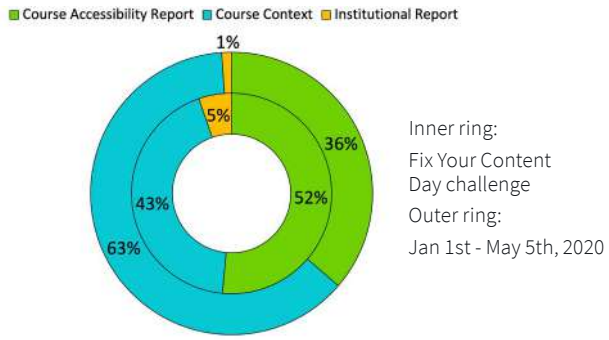


Images are typically regarded as the "easiest" and fastest file to improve because image descriptions can be added directly through the Instructor Feedback. For most institutions, missing image descriptions is also their most prevalent accessibility issue. Both of these factors help explain why adding image descriptions increased as a percentage of the file fixing activities during the challenge. The percentage of fixed images marked as "decorative" actually decreased by two percentage points during the challenge. Since marking images as decorative would be faster than typing a text description, this slight decrease provides some evidence that the gamification did not alter typical practices for fixing accessibility issues with images.

On the other hand, PDFs tend to have the most complex accessibility issues to fix, and so predictably had the largest percent decrease during the challenge. As with marking an image as decorative, one fast way to circumvent fully remediating a PDF that could have been exploited during the challenge is adding a "Library Reference." However, as a percentage of total PDFs fixed during the challenge compared to the previous four months, the number of Library References added also remained consistent.



Comparing Tools Used for Fixing Files: Fix Your Content Day and Previous Four Months



The donut charts above compare the tools used to fix files during the challenge with the four months prior. More files were fixed during the challenge through the **Course Accessibility Report** (CAR) than through the course context, consistent with previous findings in the research series that the CAR plays a more central role in courses with the most fixed files. The increased percentage of fixes made directly through the **Institutional Report** may reflect a more prominent role played by administrative teams fixing files for their respective institutions to help improve their ranking on the Leaderboard.

Making an Impact on Inclusive Education One File at a Time

During Fix Your Content Day, participants appear to have been motivated to improve the accessibility of their course materials, contribute to the spirit of Global Accessibility Awareness Day, and achieve eternal Ally Community glory on the Leaderboard, striking a careful balance between intrinsic and extrinsic motivations. While there is general consensus that equity and access are important educational values, content accessibility can be easily forgotten among many other competing priorities. Mobilizing a campus initiative such as this to bring awareness and excitement to digital accessibility seems to have catalyzed (at least for the duration of the challenge) a greater commitment to accessibility. Institutions may employ such a gamification model to develop their own internal Fix your Content challenges, such as between departments or colleges.

Inclusive Learning Series

Research Insights from the Ally Community

Discoveries from the Ally Odyssey: The BbWorld20 Sessions

Overview

This document summarizes analysis and key takeaways from two Ally data sessions presented at the BbWorld 2020 "Galaxy of Learning" conference held in July 2020. The two sessions are entitled:

- **Time Traveling through the Datasphere with Blackboard Ally** [Link to full session recording]
- **Accessibility Data and Beyond** [Link to full session recording]

Data were collected from over 550 U.S. higher education institutions. Analysis was organized across the three core components of Ally:

- **Institutional Report** accessibility data includes accessibility scores and issues from over 750 million digital content items in Learning Management System (LMS) courses dating back to the 2016-2017 academic year
- **Alternative Formats** usage data includes over 12 million downloads dating back to March 2018
- **Instructor Feedback** usage data includes over one million course files improved since March 2018

Topics and Guiding Questions

Part I: Understanding Content and Accessibility Trends over Time [jump to section]
How are institutional accessibility scores and critical accessibility issues with digital course content in the LMS changing over time? How do accessibility trends vary by subject area and institution type?

Part II: Understanding Usage of the Alternative Formats [jump to section]
How does student usage of the Alternative Formats vary over time and by format type? What do usage patterns suggest about the perceived value of the formats to students?

Part III: Understanding Usage of the Instructor Feedback [jump to section]
How does usage of the Instructor Feedback vary by indicator type (accessibility score) and file type? How does engagement with the Instructor Feedback in the course context compare to engagement using the Course Accessibility Report?

Part IV: Understanding Progress and Impact on Inclusion [jump to section]
How does the rate of improvement for the institutions with the most progress on files score compare to the average for all institutions? What is the relationship between engagement with Instructor Feedback and overall progress?

Part V: Understanding the COVID Impact and Transition to Remote Instruction [jump to section]
How did the emergency transition to remote instruction impact the amount of digital content added to courses, the accessibility of content added to courses, and usage of the Alternative Formats and Instructor Feedback

Part VI: Explore more from the Inclusive Learning Research Series [jump to section]
How do accessibility scores and issues vary by state? How does Ally adoption and usage vary by state? Discover links to interactive visualizations and additional papers from the Blackboard Ally Inclusive Learning Research Series.

Part 1: Understanding Content and Accessibility Trends over Time

The types of digital content that make up a course experience can help shed light on the nature and severity of the accessibility barriers in that course. Over four years, WYSIWYG content authored in the LMS had the largest increase (19 points) as a percentage of the five major content types, while PDFs and Word Docs saw the largest decrease (6 points each).

More on content types: 00:04:16

Takeaway: WYSIWYG content tends to have less severe accessibility issues because it is a native web format so an increase in WYSIWYG content compared to PDFs and Word Docs is positive trend from an accessibility perspective. From a course design perspective, this shift may also suggest more hybrid learning experiences and use of the LMS beyond just a repository for files as well as an improved user experience for students, who can engage more content within the LMS without downloading as many individual files.

The average WYSIWYG score for institutions remained steady over four years, decreasing only slightly by .2 percentage points to 97.8%. The relatively high score confirms the previous takeaway that WYSIWYG content tends to be more accessible in nature. Overall average files score increased 5.4 points to 48.4%.

More on overall accessibility scores: 00:09:41

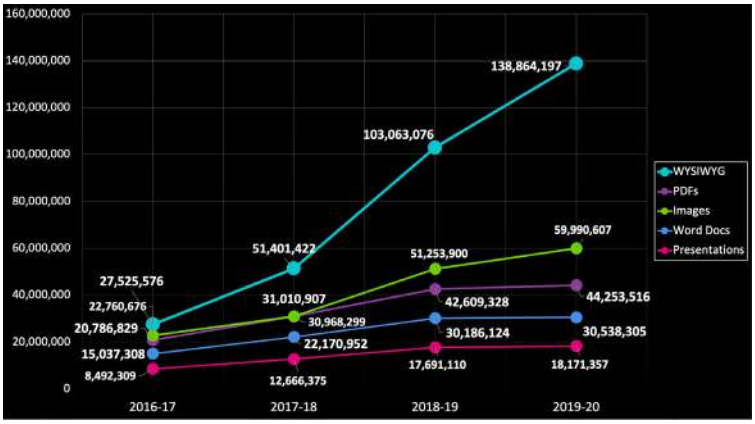
Takeaway: The large increase in WYSIWYG content did not result in a significant change in the accessibility of that content. Files score shows gradual improvement year to year, significant given both the year to year increase in the amount of files added to courses and that many of the institutions represented in the data set only very recently adopted Ally.

Among five critical accessibility issues, “Images Missing Description” decreased the most (11.8 points), but still have the largest percentage of files that can be affected by that issue- 82.2% of all images added to the LMS. Scanned PDFs, the most severe issue of the five, decreased 2.2 points to 15.4% of all PDFs.

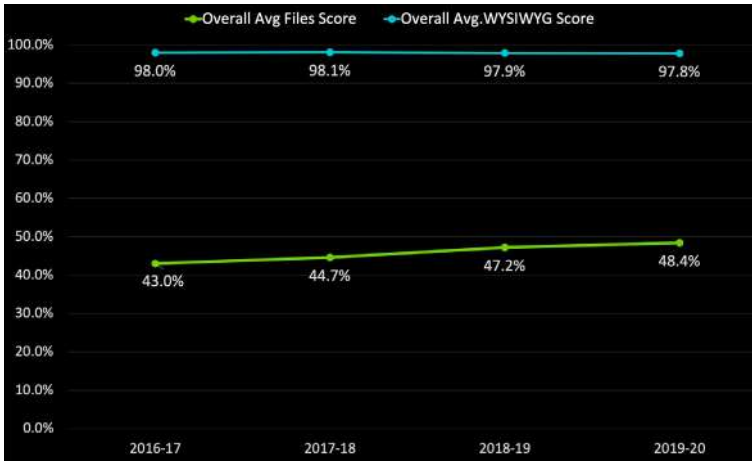
More on critical accessibility issues: 00:11:37

Takeaway: Images missing description was the most frequently addressed issue through the Ally Instructor Feedback, which may have directly contiributed to the decrease over four years. Gradual improvement over the last three years on the remaining issues appears consistent with the rate of improvement in overall files score above.

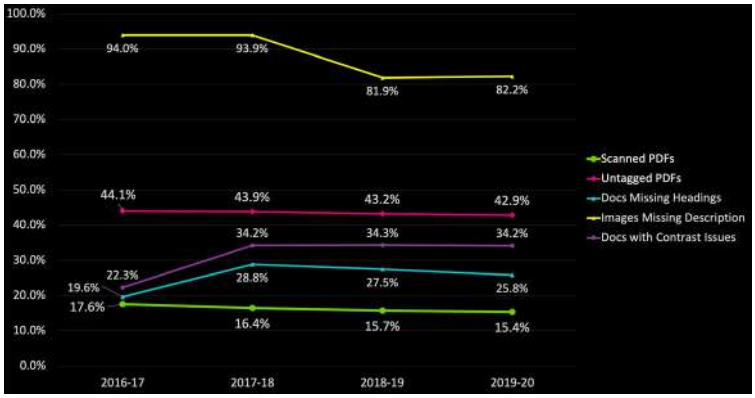
Breakdown of Major Course Content Types in Courses



Changes in WYSIWYG and Files Accessibility Score



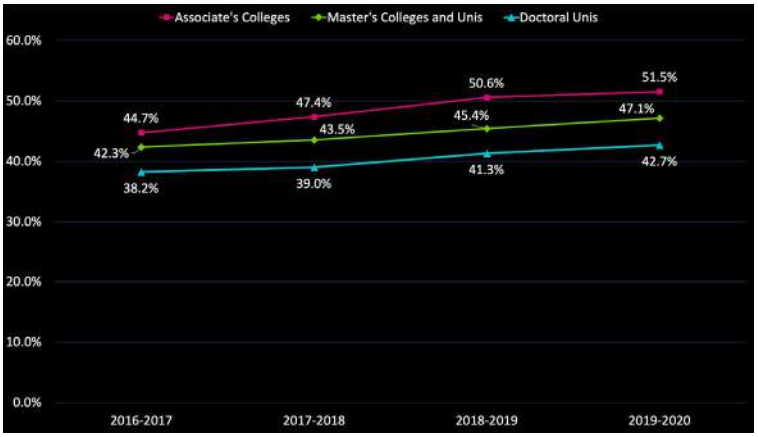
Changes in Percentage of Files with Critical Issues



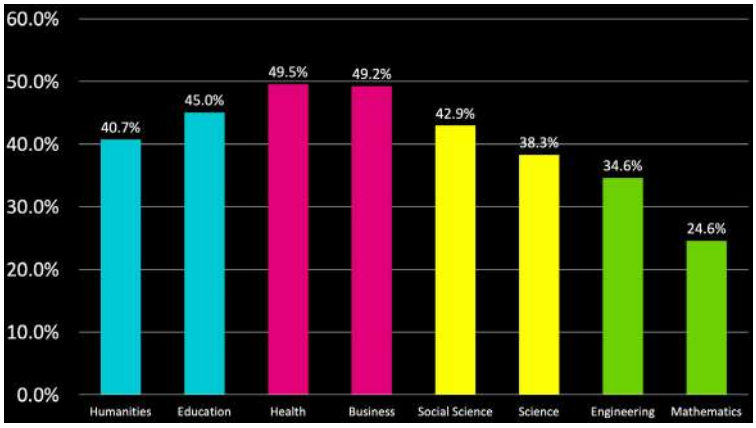
Associate's Colleges had the highest average files score per institution in 2016-2017 (44.7%), and had the most four-year improvement in files score (6.8 points). Doctoral universities, on the other hand, had the lowest average accessibility score in 2016-2017 (38.2%) and the least four-year improvement (4.5 points)
More on accessibility by Carnegie Classification: 00:15:06
Takeaway: Among critical issues, Associate's Colleges had on average 28% less Untagged PDFs than Doctoral Universities and 18% less than Master's Colleges and Universities, which may be contributing to the disparity in overall files score. Master's Colleges had the smallest percentage of images missing description (76.2%).

Based on Department-Level Reporting in the Institutional Report from six large doctoral universities, average overall files score was calculated across eight subject areas. Health and Business courses had the highest average course score (49.5% and 49.2%) while Engineering and Mathematics courses had the lowest (34.6% and 24.6%).
More on accessibility by subject area : 00:17:06
Takeaway: Given the unique challenges with STEM content and complex equations, science, technology, and engineering courses had the lowest average accessibility scores. Mathematics courses had the highest percentage of Untagged PDFs (59.9%), Images missing description (95.7%), and the second highest percentage of Scanned PDFs (20.3%).

Accessibility Progress by Carnegie Classification



Average Files Score by Subject Area in Spring 2020 Courses

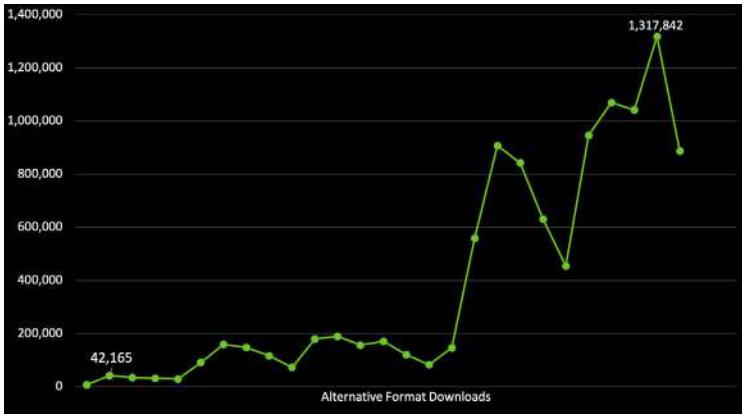


Note: Colors of bars group disciplines by similarity

Part II: Understanding Alternative Formats Usage

Comparing April 2018 to the peak in April 2020, monthly downloads increased 3,024%. The sharp rise in monthly downloads in August and September 2019 coincide with the release of a more prominent Alternative Formats icon. Downloads per FTE increased 17% between Fall 2019 and Spring 2020, from 1.03 to 1.21 mean downloads per FTE.
More on Alt. Format downloads over time: 00:06:22
Takeaway: The steady increase in total downloads per term can be attributed to more institutions adopting Ally, awareness among students growing on campuses with Ally, and the release of the more prominent icon. Over a single term, students also displayed more purposeful engagement with the formats. In Fall 2019 and Spring 2020, the conversion rate between clicking the icon and downloading a format increased from beginning to end of term. The number of downloads per unique user also increased between from beginning to end of term, reaching a peak of 2.87 downloads per user per week at the end of the Spring Term.

Total Alternative Format Downloads per Month



Tagged PDF and HTML Alternative Formats downloaded from Word Docs, Presentations, and PDFs accounted for 89.9% of all downloads. With just over 400,000 total downloads, OCRed PDF was the third-most downloaded format at 4% of total downloads, followed by ePUB and MP3 at 3.1% and 2.3% respectively. .5% of downloads were BeeLine Reader, which has seen a steady increase in downloads since being released in October 2019.

More on Alt Formats downloaded by type : 00:17:32

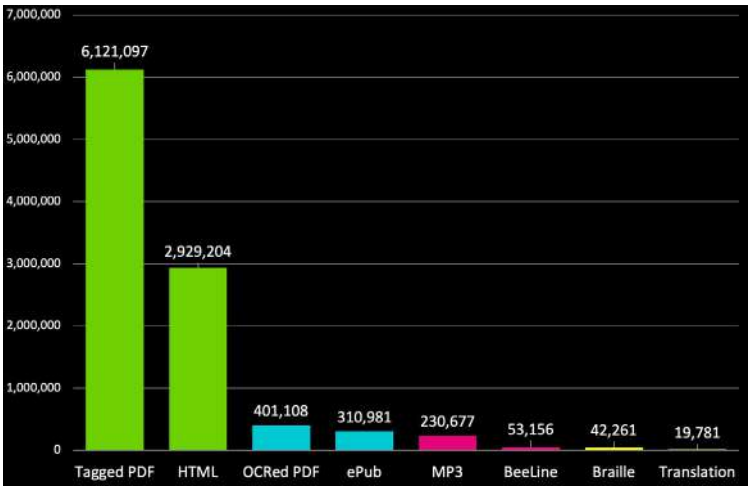
Takeaway: While campus interviews highlight diverse use cases of the Alternative Formats, the breakdown of formats downloaded appears consistent across institutions. Disparities in the types of formats downloaded may be the result of more specialized formats having utility for a subset of content. For example, the Tagged PDF has near-universal utility for Word and PowerPoint documents whereas the audio MP3 has less utility for adminstrative documents such as a syllabus or assignments with complex mathematical formulas. The large percentage of Tagged PDF and HTML downloads also reflect a growing demand for mobile-friendly content.

Of the three major Carnegie Classifications represented in the data set, Associate's Colleges had the highest mean downloads per FTE in Spring 2020 (1.29), 13% higher than Doctoral Universities (1.14). Associate's Colleges had the largest increase in mean downloads per FTE between Fall 2019 and Spring 2020 (.25 more) while Doctoral Universities had the smallest increase (.12 more).

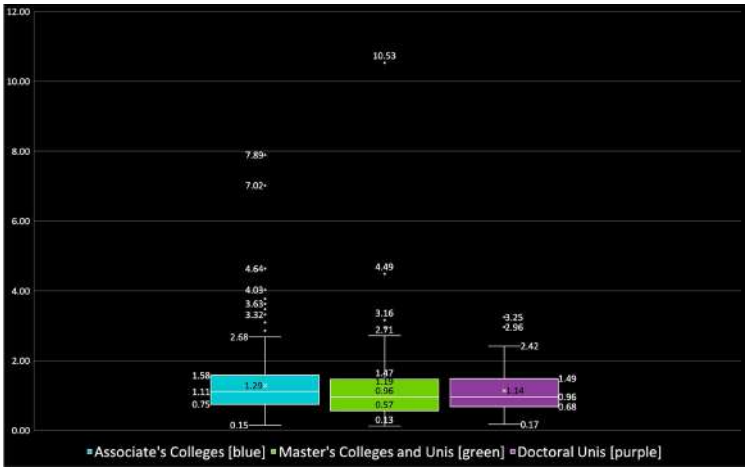
More on Alt Formats downloaded by Carnegie Class: 00:27:46

Takeaway: The difference in mean downloads per FTE across Carnegie Classifications was not statistically significant in either the Fall or Spring term, suggesting the formats have broad appeal across different types of institutions.

Alternative Formats Downloaded by Format Type



Alternative Format Downloads by Carnegie Classification



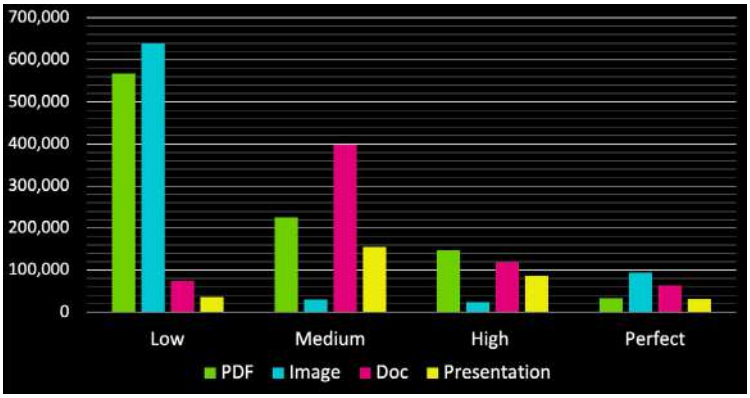
Part III: Understanding Instructor Feedback Usage

50% of all indicator clicks were "low score" red indicators, primarily of PDF and Image files. "Medium score" orange indicators were the second most engaged, nearly half of which were Word Docs.

More on indicator clicks by file type: 00:32:53

Takeaway: Given that 82% of images are likely to have a red indicator and at least 58.3% of PDFs have a red indicator, and given images and PDFs are the most common of the four file types, red indicators may be more prevalent in many courses. Instructors may also prioritize low score content when learning about and addressing accessibility issues in their courses.

Indicator Clicks by Acessibility Score and File Type



Images had the lowest average starting score, the highest conversion rate between clicking an indicator and attempting to make a fix through Ally (86.0%), and the second highest success rate of files altered that resulted in an improved accessibility score (87.4%). 64% of all files improved through Ally were images. PDFs had the second most indicator clicks but the lowest conversion rate (21.1%) and the third lowest success rate (78.0%).
More on engagement by file type: 00:34:50

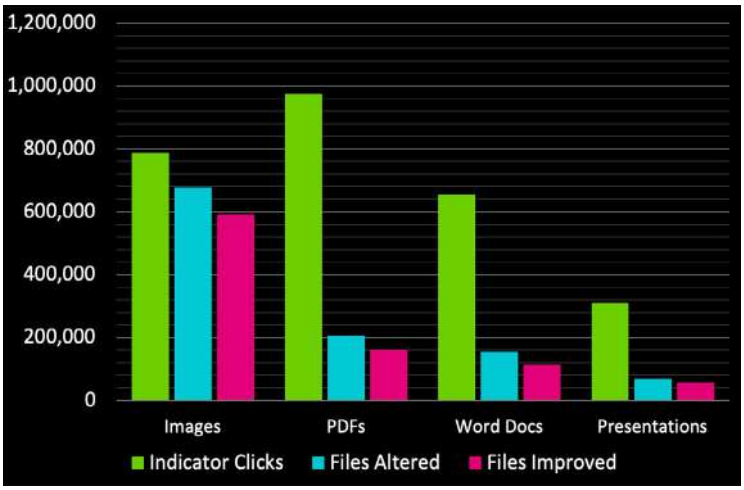
Takeaway: Considering the complexity of some file accessibility issues, a success rate above 73% for all four file type provides some evidence of the effectiveness of the Instructor Feedback in guiding instructors to successfully correct accessibility issues.

The Course Accessibility Report (CAR; released in August 2019) has not been enabled by all institutions, but has seen increased usage over time. The number of files improved through the CAR reached a peak in May 2020 (66,803). In 2020, engagement with the Instructor Feedback initiated through the CAR had a higher conversion rate (74.5%) and success rate (90.7%) compared to engagement through the course context (44.0% conversion rate; 83.7% success rate). *More on the Course Accessibility Report: 00:38:46*

Takeaway: A lower conversion and success rate in the course context may be the result of more exploration and initial engagement with the feedback compared to the CAR, which requires more deliberate navigation to access and offers instructors additional guidance about "easier" issues to fix. In the top 100 courses with the most files improved, 50% of files improved on average were made through the CAR, also suggesting that the CAR plays an increasingly important role in courses with the most improvement on accessibility issues.

Instructor Feedback Engagement by File Type

Note: Engagement data only includes files altered through the Ally interface, so files altered and conversion rates may be higher if files fixed directly through the LMS were accounted for in the data.



Instructor Feedback Engagement by Tool since Jan 1, 2020

Engagement Type	CAR	Course Context
Indicator Clicks	386,113	1,125,016
Files Altered **(Conversion Rate)**	287,758 **(74.5%)**	495,442 **(44.0%)**
Files Improved **(Success Rate)**	261,681 **(90.9%)**	414,767 **(83.7%)**

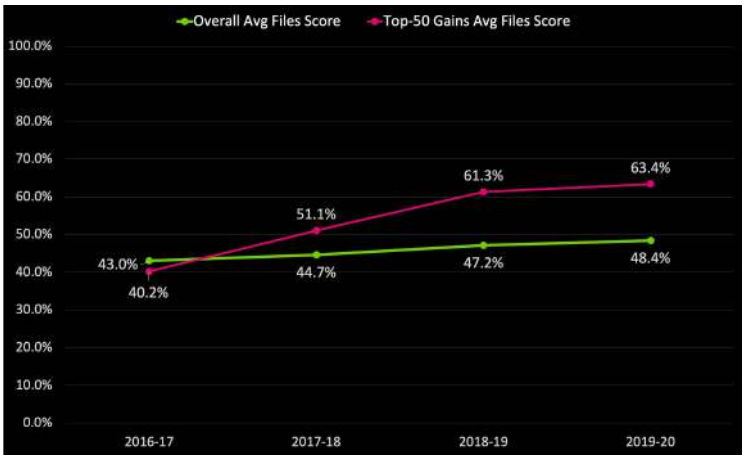
Part IV: Understanding Progress and Impact on Inclusive Education

While the average improvement in overall files score for all institutions with Ally was 5.4 percentage points over four years, the average improvement for the top 50 institutions with the largest gains was 20.4 points.
More on improvement by the top 50: 00:28:00

Takeaway: Based on interview data with campus leaders, institutions that made the most progress the most quickly on accessibility score tended to have:

- Buy-in from leadership with clearly articulated institutional goals for accessibility progress
- Focused professional development for faculty and support for faculty with more challenging accessibility issues

Avg. Files Score for Top-50 Instittutions with Most Progress

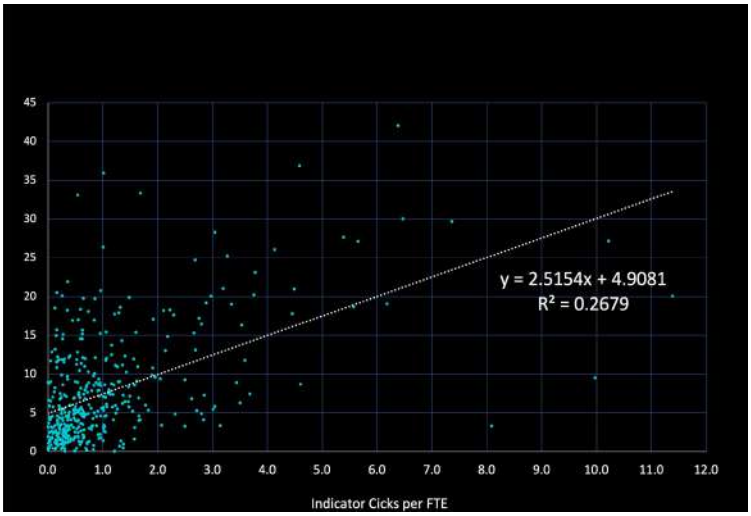


For the 420 institutions with a 2016-2017 files score and progress greater than or equal to zero over four years, there is a statistically significant relationship between the total number of indicator clicks per FTE and gains in overall files score (represented in the vertical access of the scatter plot). Correlation analysis reveals a moderate correlation of .508.

More on clicks per FTE and progress: 00:29:11

Takeaway: Given the variety of ways that institutions have rolled-out Ally to their campuses that can impact their rate of accessibility progress as well as fluctuations in the amount of digital content year to year, it is encouraging to discover a meaningful relationship between engagement with accessibility feedback and progress on overall files score. Although there are numerous factors that influence institution-wide progress, the evidence suggests that the accessibility indicators and feedback may help facilitate that progress at scale.

Relationship between Clicks per FTE and 4-Year Progress



Part V: Understanding Impact of COVID-19 and the Transition to Remote Instruction

There appears a considerable uptick in the amount of digital content uploaded into courses in March 2020 when most institutions moved to emergency remote instruction compared to March 2019. More than double the amount of WYSIWYG content was created, and the four major file types increased between 41% and 67%.

More on COVID-19 impact on content : 00:32:41

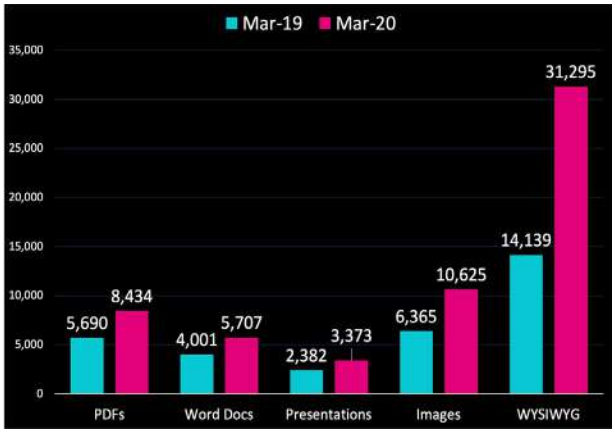
Takeaway: An unforeseen uptick in new content in courses places additional strain on disability support and access teams tasked with remediating content for students with disclosed disabilities. Without increased resources to take on the additional remediation work, students may face delays in receiving accessible materials, putting them at risk of falling behind.

The average accessibility scores of file and WYSIWYG content added to courses in March 2020 (47.1% and 97.8%) was largely consistent with March 2019 (46.8% and 97.8%). While the level of consistency in scores did not result in a larger percentage of files with accessibility issues, the increase in content led to an overall increase in content with critical accessibility issues.

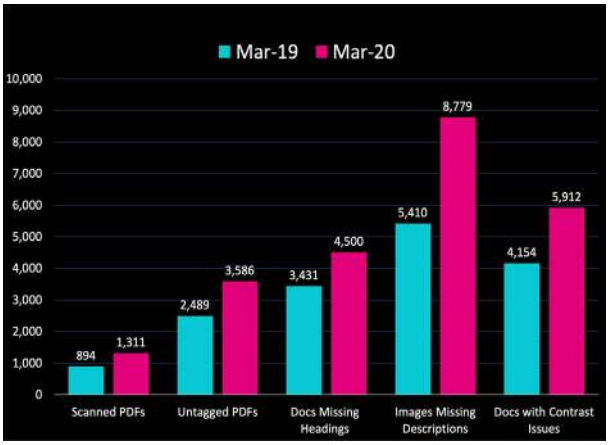
More on COVID-19 impact on accessibility: 00:33:53

Takeaway: Although the accessibility of the content did not deteriorate as a result of the transition to remote instruction, the influx of new content still resulted in an increase in critical accessibility issues, confirming the need for scalable tools and data-informed insights to address rapid changes to course delivery.

Avg. Increase in Content for March 2019-2020



Critical Issues Comparison: March 2019 and March 2020

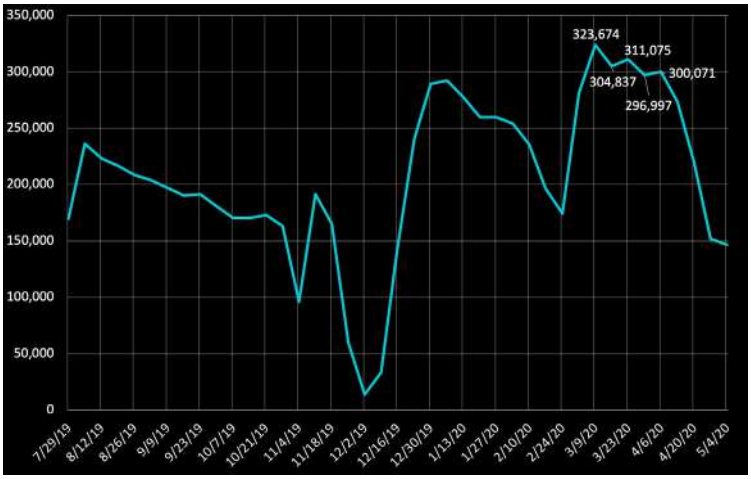


Prior to the transition to remote instruction, Alternative Format downloads never exceeded 300,000 in a single week. During a five week stretch in Spring 2020 when instruction resumed, students downloaded an average of over 300,000 Alternative Formats per week, and downloads per FTE in the Spring term increased by 17%. The number of files improved through the Instructor Feedback also reached record levels during two consecutive weeks in April.

More on Alt. Format downloads and COVID-19: 00:08:49

Takeaway: An increase in the amount of digital content and an increased need for content in formats that work with available devices and software at home may have contributed to the increase in Alternative Format downloads in Spring 2020. The April increase in files improved may be related to the influx of content in March, or proactively addressing issues for Summer and Fall 2020 courses.

Alternative Format Downloads per Week: COVID-19 Impact



Explore More from the Inclusive Learning Research Series

What are the average accessibility scores and critical issues for institutions with Ally in your state? What does Ally adoption and usage look like in your state?

The hex map allows you to view overall files score, WYSIWYG score, and percentage of files with critical accessibility issues by state.

The packed bubble chart allows you to view the number of institutions with Ally, number of full time students impacted, amount of content checked, and usage of Alternative Formats and Instructor Feedback by state.

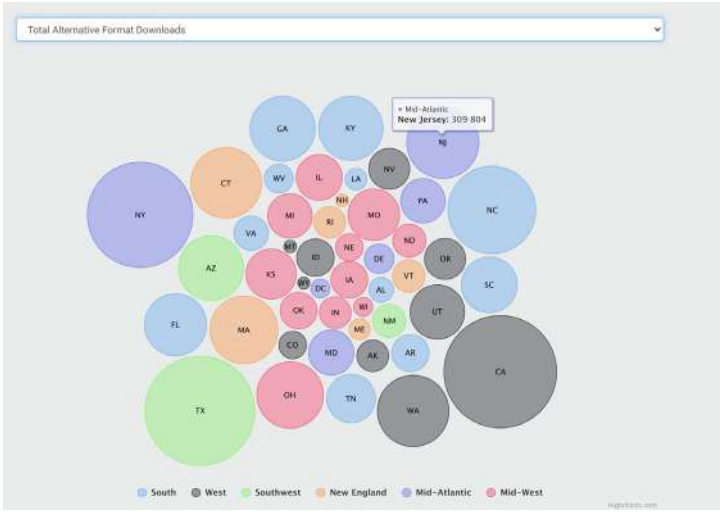
Visit **ally.ac/research** to interact with the visualizations as well as find more papers from the Inclusive Learning Research Series, including:

- **Student Usage of the Alternative Formats**
- **Instructor Engagement with Accessibility Feedback**
- **Ally Adoption and Usage at Doctoral Universities**
- **Ally Adoption and Usage at Associate's Colleges**
- **Impact from Fix your Content Day**

Comment, post questions, and discuss findings from the Research Series on the Ally User group at **usergroup.ally.ac/resources**

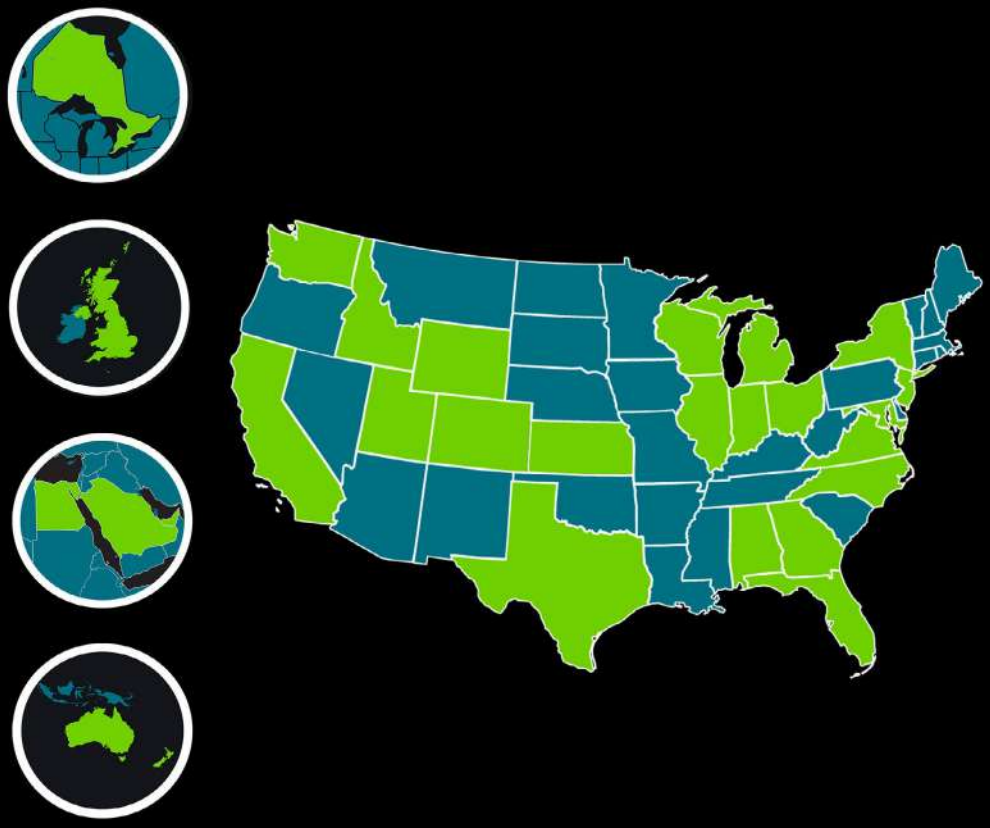
Accessibility Scores and Critical Issues by State: Hex Map

Ally Adoption and Usage by State: Packed Bubble



Join the global Community of educators advancing inclusive education at usergroup.ally.ac

The **Book** of



Inclusive Learning Research Series: State and Regional Impact Papers

Blackboard

Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the Sunshine State

Colleges and universities throughout the state of Florida serve a diverse population of students with a variety of learning needs and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

View overall accessibility trends in the LMS over time. Focus at the issue level or course level for strategic planning and benchmarking. Analyze detailed usage data of Ally tools.

Alternative Formats

Machine learning algorithms automatically generate eight unique file formats from the instructor original. Improve accessibility and usability of course files for all students. Increase learner flexibility and options for engagement.

Instructor Feedback

Accessibility indicators next to course files raise awareness and prompt engagement. Guidance helps faculty address issues and develop authoring skills. Course Accessibility Report provides actionable insights to faculty.

Ally Adoption in Florida

16 Colleges and Universities currently using Ally in the LMS

268,686 Students benefiting from Ally (based on full-time enrollment)

2,550,532 Files checked for accessibility in Fall 2019 courses

1,732,153 HTML items checked for accessibility in Fall 2019 courses

184,437 Alternative Formats downloaded through Ally in one year

32,482 Files improved through the Instructor Feedback in one year

Twitter: #BbAlly | Join the Ally User Group: usergroup.ally.ac

Institutional Report Data

The "Overall Files Score" in the table represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) in Fall 2019 LMS courses. For the five accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue in Fall 2019 courses.

Accessibility numbers in Florida reflect national averages. Given the volume of files with critical issues, institutions require a scalable, data-informed approach. The Institution Report allows administrators and campus leaders to proactively identify problem areas, allocate resources strategically, collaborate across various campus units such as the library, and benchmark progress on key issues and courses.

Alternative Formats Usage

While all 16 institutions have yet to enable the Alternative Formats in all courses, since the start of 2020, an average of **3,157 students have downloaded 2.3 formats per week**. The average 2020 unique weekly downloaders represents a 79% increase from Fall 2019, and a 388% increase from Spring 2019. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In the past year, **50% of indicator clicks resulted in an attempt to fix the file** through the Instructor Feedback (5 points higher than the national average) and **84% of attempted fixes resulted in an improved accessibility score**. Consistent with national data, images were the most commonly fixed file type (64% of all files fixed in Florida). Images were followed by PDF (23%), Word Docs (8%), and Presentations (5%).

Providing instructors with feedback and guidance within their course workflow on accessible content authoring helps institutions scale professional development and make a sustainable impact on inclusive education.

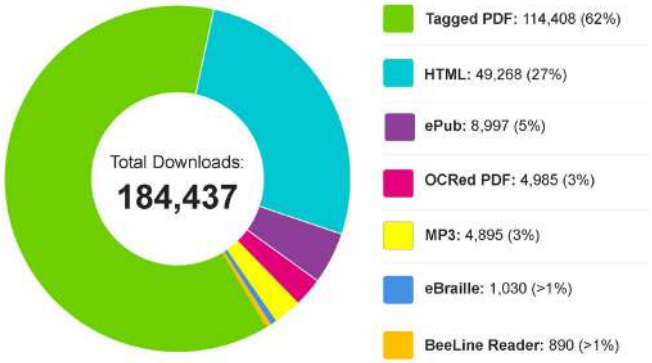
Avg. Accessibility Scores and Critical Issues: Fall 2019

File Score and Issues	Small	Medium	Large
Overall Files Score	**48.4%**	**44.2%**	**43.8%**
Scanned PDFs **(% of Total PDFs)**	2,149 **(14%)**	5,188 **(15%)**	12,924 **(13%)**
Untagged PDFs **(% of Total PDFs)**	5,188 **(39%)**	16,009 **(46%)**	44,932 **(44%)**
Docs Missing Headings **(% of Total Docs)**	10,979 **(31%)**	16,263 **(24%)**	48,078 **(25%)**
Images Missing Description **(% of Total Images)**	15,199 **(93%)**	28,629 **(89%)**	80,196 **(82%)**

Small = 700 - 7,500 FTE (5 institutions); Medium = 9,000 - 19,999 FTE (6); Large = 20,000 - 50,000 FTE (5)

Alternative Format Downloads by Type: 12 months

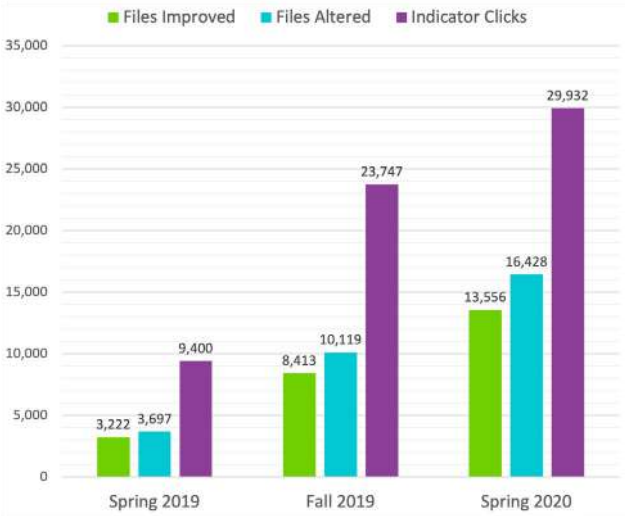
*BeeLine Reader was available in a limited number of courses



Engagement with Instructor Feedback by Term

Includes first three months of each term.

"Files altered and improved" are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the Buckeye State

Colleges and universities throughout the state of Ohio serve a diverse population of students with a variety of learning needs and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

View overall accessibility trends in the LMS over time. Focus at the issue level or course level for strategic planning and benchmarking. Analyze detailed usage data of Ally tools

Alternative Formats

Machine learning algorithms automatically generate eight unique file formats from the instructor original. Improve accessibility and usability of course files for all students. Increase learner flexibility and options for engagement

Instructor Feedback

Accessibility indicators next to course files raise awareness and prompt engagement. Guidance helps faculty address issues and develop authoring skills. Course Accessibility Report provides actionable insights to faculty.

Ally Adoption in Ohio

- **22** Colleges and Universities currently using Ally in the LMS
- **211,988** Students benefiting from Ally (based on full-time enrollment)
- **2,263,235** Files checked for accessibility in Fall 2019 courses
- **2,439,929** HTML items checked for accessibility in Fall 2019 courses
- **292,951** Alternative Formats downloaded through Ally in one year
- **11,042** Files improved through the Instructor Feedback in one year

Institutional Report Data

The "Overall Files Score" in the table represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) in Fall 2019 LMS courses. For the four accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue in Fall 2019 courses.

Accessibility numbers in Ohio reflect national averages. Given the volume of files with critical issues, institutions require a scalable, data-informed approach. The **Institutional Report** allows administrators and campus leaders to proactively identify problem areas, allocate resources strategically, collaborate across various campus units such as the library, and benchmark progress on key issues and courses.

Alternative Formats Usage

While all 22 institutions have yet to enable the Alternative Formats in all courses, since the start of 2020, an average of **3,917 students have downloaded 2.6 formats per week**. With **1.0 downloads per FTE,** usage rates reveal widespread adoption across campus. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In the last 15 months, **32% of indicator clicks** resulted in an attempt to fix the file through the Instructor Feedback, and **83% of attempted fixes resulted in an increased score,** contributing to **accessibility improvements across 2,581 courses**. Consistent with national data, images were the most commonly fixed file type (57% of all files fixed in Ohio). Images were followed by PDF (29%), Word Docs (9%), and Presentations (5%).

Providing instructors with feedback and guidance within their course workflow on accessible content authoring helps institutions scale professional development and make a sustainable impact on inclusive education.

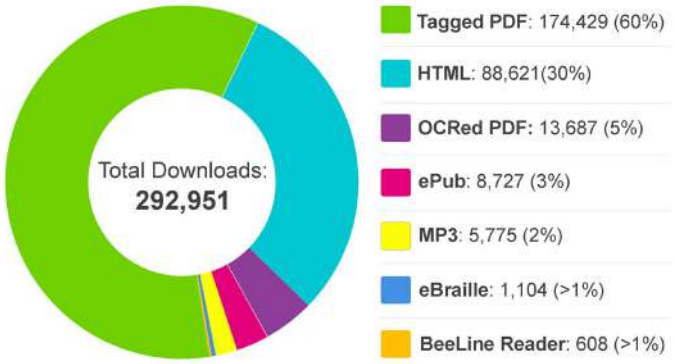
Avg. Accessibility Scores and Critical Issues: Fall 2019

File Score and Issues	Small	Medium	Large
Overall Files Score	**51.6%**	**48.9%**	**48.5%**
Scanned PDFs **(% of Total PDFs)**	1,807 **(16%)**	4,574 **(17%)**	16,966 **(18%)**
Untagged PDFs **(% of Total PDFs)**	3,725 **(37%)**	11,437 **(40%)**	33,291 **(44%)**
Docs Missing Headings **(% of Total Docs)**	6,810 **(24%)**	18,290 **(30%)**	48,466 **(29%)**
Images Missing Description **(% of Total Images)**	4,972 **(81%)**	7,044 **(81%)**	38,885 **(68%)**

Small = 1,500 - 4,900 FTE (9 institutions); Medium = 5,000 - 14,900 FTE (8); Large = 14,950 -35,000 FTE (5)

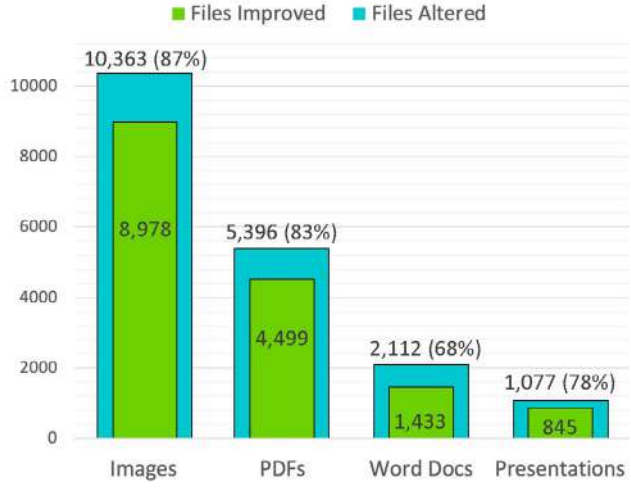
Alternative Format Downloads by Type: 12 months

*BeeLine Reader was available in a limited number of courses



Files Altered and Improved by File Type: 15 Months

"Files altered and improved" are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS. Parentheses refers to the percentage of files altered that resulted in an improved score



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the Tar Heel State

Colleges and universities throughout the state of North Carolina serve a diverse population of students with a variety of learning needs and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

View overall accessibility trends in the LMS over time. Focus at the issue level or course level for strategic planning and benchmarking. Analyze detailed usage data of Ally tools.

Alternative Formats

Machine learning algorithms automatically generate eight unique file formats from the instructor original. Improve accessibility and usability of course files for all students. Increase learner flexibility and options for engagement.

Instructor Feedback

Accessibility indicators next to course files raise awareness and prompt engagement. Guidance helps faculty address issues and develop authoring skills. Course Accessibility Report provides actionable insights to faculty.

Ally Adoption in North Carolina

- **57** Colleges and Universities currently using Ally in the LMS
- **234,147** Students benefiting from Ally (based on full-time enrollment)
- **3,290,662** Files checked for accessibility in 2019-2020 academic year
- **3,818,623** HTML items checked for accessibility in 19-20 academic year
- **596,626** Alternative Formats downloaded through Ally in two years
- **55,744** Files improved through the Instructor Feedback in two years

Institutional Report Data

The "Overall Files Score" in the table represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) iuploaded to the LMS during the 2019-2020 academic year. For the four accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue.

Accessibility numbers in N.C. reflect national averages. Given the volume of files with critical issues, institutions require a scalable, data-informed approach. The **Institutional Report** allows admins and campus leaders to proactively identify problem areas, allocate resources strategically, and benchmark progress on key issues and courses.

Alternative Formats Usage

25 institutions with Alternative Formats enabled in Fall 2019 courses saw an average of **1.44 downloads per FTE, exceeding the national average by over .4 downloads**. On average each week during 2020, **4,517 students** have downloaded **2.81 formats per week**. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In the past two years, **38% of indicator clicks resulted in an attempt to fix the file** through the Instructor Feedback and **82% of attempted fixes resulted in an improved accessibility score**. Consistent with national data, images were the most commonly improved file type (65% of all files fixed in NC). Images were followed by PDFs (17%) Word Docs (12%), and Presentations (6%). **6,529 files were altered** through the **Course Accessibility Report**.

Providing instructors with accessibility feedback and guidance within their course workflow helps institutions scale professional development and make a sustainable impact on inclusive education.

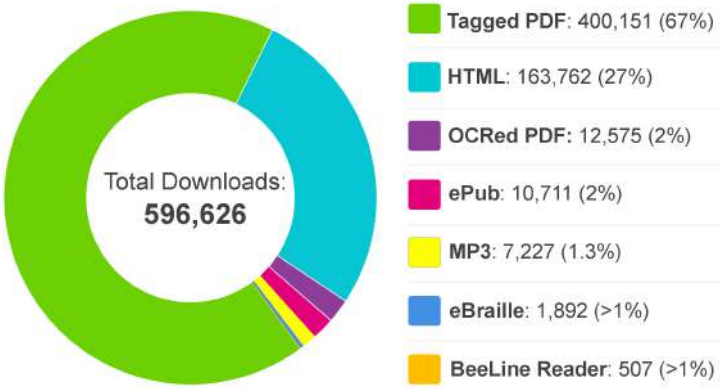
Avg. Accessibility Scores and Critical Issues: 2019-2020

File Score and Issues	Small	Medium	Large
Overall Files Score	**57.6%**	**54.3%**	**47.2%**
Scanned PDFs **(% of Total PDFs)**	710 **(18%)**	2,926 **(14%)**	15,721 **(19%)**
Untagged PDFs **(% of Total PDFs)**	1,460 **(32%)**	7,116 **(33%)**	31,676 **(36%)**
Docs Missing Headings **(% of Total Docs)**	3,758 **(25%)**	15,335 **(25%)**	54,563 **(25%)**
Images Missing Description **(% of Total Images)**	5,133 **(64%)**	30,411 **(75%)**	68,268 **(84%)**

Small = 620 - 4,000 FTE (43 institutions); Medium = 4,000 - 10,000 FTE (6); Large = 10,500 - 31,000 FTE (6)

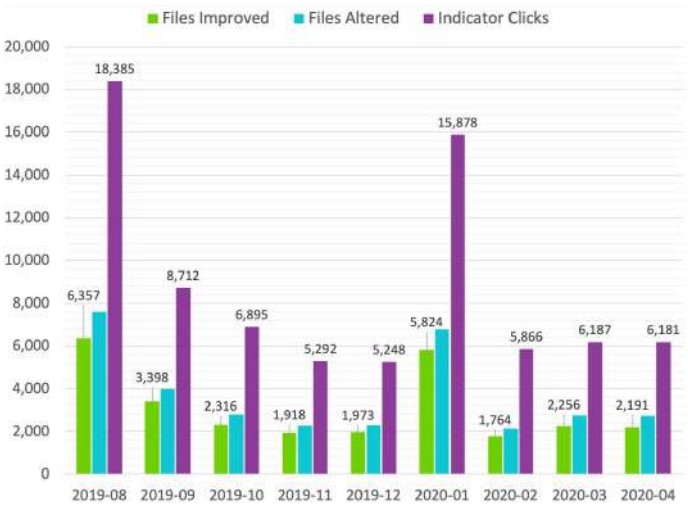
Alternative Format Downloads by Format: 24 months

*BeeLine Reader was available in a limited number of courses



Engagement with Instructor Feedback over 9 months

"Files altered and improved" are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the Lone Star State

Colleges and universities throughout the state of Texas serve a diverse population of students with a variety of learning needs, language backgrounds, abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

View overall accessibility trends in the LMS over time. Focus at the issue level or course level for strategic planning and benchmarking. Analyze detailed usage data of Ally tools.

Alternative Formats

Machine learning algorithms automatically generate eight unique file formats from the instructor original. Improve accessibility and usability of course files for all students. Increase learner flexibility and options for engagement.

Instructor Feedback

Accessibility indicators next to course files raise awareness and prompt engagement. Guidance helps faculty address issues and develop authoring skills. Course Accessibility Report provides actionable insights to faculty.

Ally Adoption in Texas

- **67** Colleges and Universities currently using Ally in the LMS
- **452,274** Students benefiting from Ally (based on full-time enrollment)
- **15,194,452** Files checked for accessibility in 2019-2020 academic year
- **10,567,739** HTML items checked for accessibility in 19-20 academic year
- **822,856** Alternative Formats downloaded through Ally in one year
- **189,692** Files improved through the Instructor Feedback in one year

Institutional Report Data

The “Overall Files Score” in the table represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) iuploaded to the LMS during the 2019-2020 academic year. For the four accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue.

Accessibility numbers in Texas reflect national averages. Given the volume of files with critical issues, institutions require a scalable, data-informed approach. The **Institutional Report** allows admins and campus leaders to proactively identify problem areas, allocate resources strategically, and benchmark progress on key issues and courses.

Alternative Formats Usage

25 institutions with Alternative Formats enabled in Spring 2020 courses saw an average of **1.45 downloads per FTE, a 41% increase from Fall 2019**. On average each week Spring 2020, **11,429 students** have downloaded **2.67 formats per week**. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In the past two years, **54% of indicator clicks resulted in an attempt to fix the file** through the Instructor Feedback and **85% of attempted fixes resulted in an improved accessibility score**. Consistent with national data, images were the most commonly improved file type (62% of all files fixed in TX). Images were followed by PDFs (15%) Word Docs (14.5%), and Presentations (8%). **100,412** (53% of total) of files were altered through the **Course Accessibility Report**.

Providing instructors with accessibility feedback and guidance within their course workflow helps institutions scale professional development and make a sustainable impact on inclusive education.

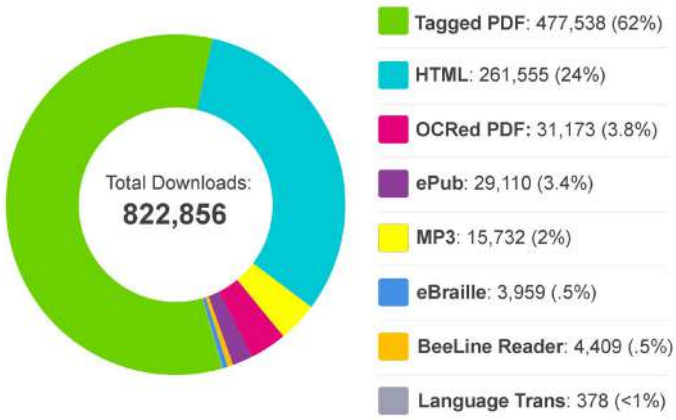
Avg. Accessibility Scores and Critical Issues: 2019-2020

File Score and Issues	Small	Medium	Large
Overall Files Score	**46.7%**	**48.2%**	**47.0%**
Scanned PDFs **(% of Total PDFs)**	42,745 **(15%)**	8,767 **(15%)**	25,899 **(13%)**
Untagged PDFs **(% of Total PDFs)**	7,154 **(33%)**	19,897 **(35%)**	83,548 **(39%)**
Docs Missing Headings **(% of Total Docs)**	13,082 **(26%)**	40,517 **(27%)**	109,203 **(23%)**
Images Missing Description **(% of Total Images)**	35,637 **(87%)**	55,040 **(86%)**	263,897 **(79%)**

Small = 1,000- - 4,955 FTE (15 institutions); Medium = 6,000 - 19,000 FTE (13); Large = 20,000 - 48,979 FTE (10)

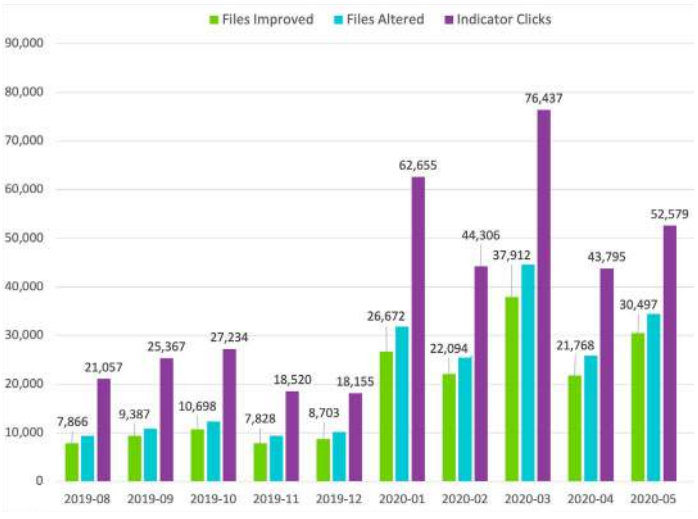
Alternative Format Downloads by Format: 12 months

*BeeLine Reader and Language Translation was available in a limited number of courses



Engagement with Instructor Feedback over 12 months

“Files altered and improved” are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the Golden State

Colleges and universities throughout California serve a diverse population of students with a variety of learning needs and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

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Alternative Formats

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Instructor Feedback

Accessibility indicators next to course files raise awareness and prompt engagement. Guidance helps faculty address issues and develop authoring skills. Course Accessibility Report provides actionable insights to faculty.

Ally Adoption in California

- **75** Institutions currently using Ally in the Learning Management System
- **978,987** Students benefiting from Ally (based on full-time enrollment)
- **25,423,568** Files checked for accessibility in 2019-2020 academic year
- **24,145,455** HTML pages-items checked for accessibility in 19-20
- **1,523,888** Alternative Formats downloaded through Ally in 12 months
- **282,450** Files improved through the Instructor Feedback in 12 months

Twitter: #BbAlly | Join the Ally User Group: usergroup.ally.ac

Institutional Report Data

The "Overall Files Score" in the table represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) uploaded to the LMS during the 2019-2020 academic year. For the four accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue.

Accessibility numbers across California reflect national averages. Given the volume of files with critical issues, institutions require a scalable, data-informed approach. The **Institutional Report** allows admins and campus leaders to proactively identify problem areas, allocate resources strategically, and benchmark progress on key issues and courses.

Alternative Formats Usage

Over 73,000 students downloaded an Alternative Format in Spring 2020, and institutions saw an average of **1.28 downloads per FTE**. On average in Spring 2020, **10,242** students per week downloaded **2.43 Alternative Formats**. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In the past year, **55% of indicator clicks resulted in an attempt to fix the file** through the Instructor Feedback and **87% of attempted fixes resulted in an improved accessibility score**. Consistent with national data, images were the most commonly improved file type (78.4% of all files fixed in California). Images were followed by PDFs (11.8%), Word Docs (6.7%), and Presentations (3.2%). **Over 80,00** of files altered (32% of total) were initiated through the **Course Accessibility Report**.

Providing instructors with accessibility feedback and guidance within their course workflow helps institutions scale professional development and make a sustainable impact on inclusive education.

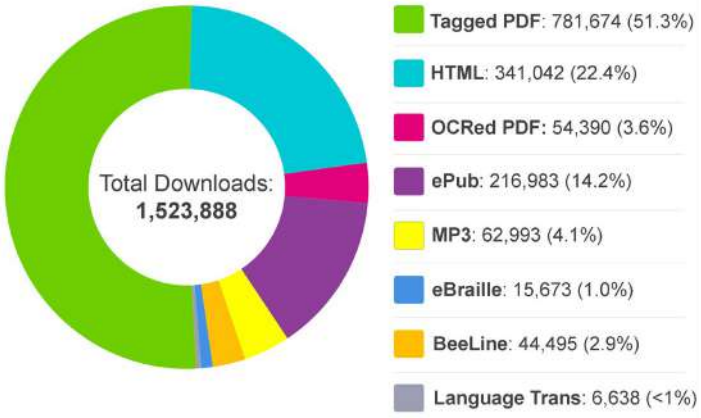
Avg. Accessibility Scores and Critical Issues: 2019-2020

File Score and Issues	Small	Medium	Large
Overall Files Score	**42.5%**	**42.7%**	**42.0%**
Scanned PDFs **(% of Total PDFs)**	8,433 **(16%)**	14,931 **(14%)**	40,022 **(14%)**
Untagged PDFs **(% of Total PDFs)**	24,873 **(46%)**	47,267 **(44%)**	139,559 **(49%)**
Docs Missing Headings **(% of Total Docs)**	25,126 **(24%)**	50,513 **(25%)**	119,262 **(24%)**
Images Missing Description **(% of Total Images)**	61,888 **(83%)**	147,327 **(82%)**	236,754 **(85%)**

Small = 750- - 9,600 FTE (21 institutions); Medium = 10,000 - 19,990 FTE (25); Large = 20,000 - 77,000 FTE (15)

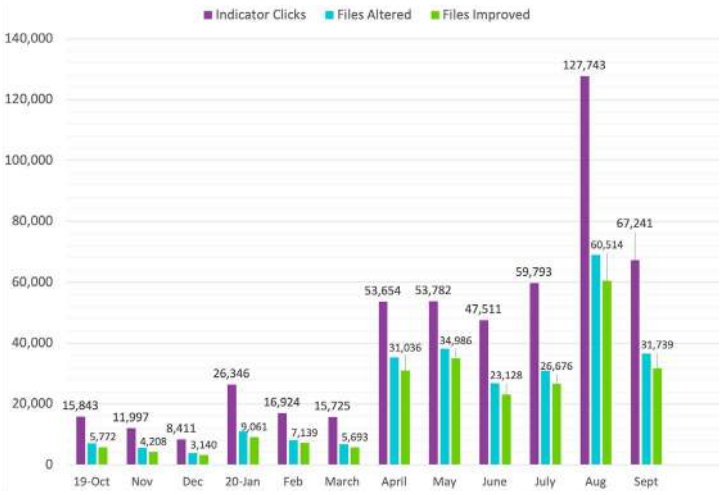
Alternative Format Downloads by Format: 12 months

*BeeLine Reader and Language Translation was available in a limited number of courses



Engagement with Instructor Feedback over 12 months

"Files altered and improved" are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the Empire State

Colleges and universities throughout the state of New York serve a diverse population of students with a variety of learning needs, language backgrounds, and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

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Alternative Formats

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Instructor Feedback

Accessibility indicators next to course files raise awareness and prompt engagement. Guidance helps faculty address issues and develop authoring skills. Course Accessibility Report provides actionable insights to faculty.

Ally Adoption in New York

- **63** Colleges and Universities currently with Ally in the LMS
- **424,374** Students benefiting from Ally (based on full-time enrollment)
- **7,211,368** Files checked for accessibility in 2019-2020 academic year
- **5,880,227** HTML items checked for accessibility in 19-20 academic year
- **833,173** Alternative Formats downloaded through Ally in one year
- **26,706** Files improved through the Instructor Feedback in one year

Twitter: #BbAlly | Join the Ally User Group: usergroup.ally.ac

Institutional Report Data

The "Overall Files Score" in the table represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) uploaded to the LMS during the 2019-2020 academic year. For the four accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue.

Accessibility numbers across New York reflect national averages. Given the volume of files with critical issues, institutions require a scalable, data-informed approach. The **Institutional Report** allows admins and campus leaders to proactively identify problem areas, allocate resources strategically, and benchmark progress on key issues and courses.

Alternative Formats Usage

43 institutions with Alternative Formats enabled in Spring 2020 courses saw an average of **1.26 downloads per FTE, a 31% increase from Fall 2019**. On average in Spring 2020, **9,106** students per week downloaded **2.89 Alternative Formats**. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In the past year, **33% of indicator clicks resulted in an attempt to fix the file** through the Instructor Feedback and **84% of attempted fixes resulted in an improved accessibility score**. Consistent with national data, images were the most commonly improved file type (57% of all files fixed in NY). Images were followed by PDFs (23.5%) Word Docs (13%), and Presentations (5.8%). 3,547 of files altered (16% of total) were initiated through the **Course Accessibility Report**.

Providing instructors with accessibility feedback and guidance within their course workflow helps institutions scale professional development and make a sustainable impact on inclusive education.

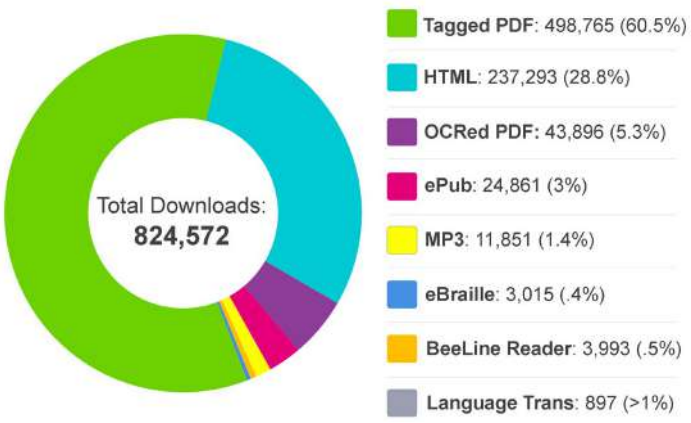
Avg. Accessibility Scores and Critical Issues: 2019-2020

File Score and Issues	Small	Medium	Large
Overall Files Score	**47.2%**	**45.1%**	**41.3%**
Scanned PDFs **(% of Total PDFs)**	2,082 **(19%)**	6,424 **(18%)**	15,652 **(17%)**
Untagged PDFs **(% of Total PDFs)**	4,437 **(34%)**	13,861 **(38%)**	44,526 **(45%)**
Docs Missing Headings **(% of Total Docs)**	7,848 **(28%)**	25,296 **(27%)**	39,631 **(26%)**
Images Missing Description **(% of Total Images)**	15,787 **(84%)**	33,021 **(82%)**	62,754 **(88%)**

Small = 750- - 3,500 FTE (22 institutions); Medium = 3,600 - 8,900 FTE (21); Large = 9,000 - 30,000 FTE (14)

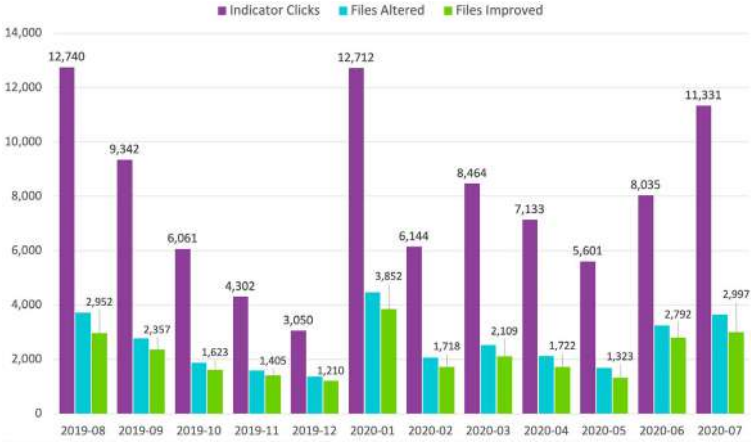
Alternative Format Downloads by Format: 12 months

*BeeLine Reader and Language Translation was available in a limited number of courses



Engagement with Instructor Feedback over 12 months

"Files altered and improved" are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education in the Midwest

Colleges and universities throughout Michigan, Indiana, Illinois, and Wisconsin serve a diverse population of students with a variety of learning needs, language backgrounds, and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

View overall accessibility trends in the LMS over time. Focus at the issue level or course level for strategic planning and benchmarking. Analyze detailed usage data of Ally tools.

Alternative Formats

Machine learning algorithms automatically generate eight unique file formats from the instructor original. Improve accessibility and usability of course files for all students. Increase learner flexibility and options for engagement.

Instructor Feedback

Accessibility indicators next to course files raise awareness and prompt engagement. Guidance helps faculty address issues and develop authoring skills. Course Accessibility Report provides actionable insights to faculty.

Ally Adoption in the Midwest

- **36** Colleges and Universities currently with Ally in the LMS
- **299,627** Students benefiting from Ally (based on full-time enrollment)
- **9,527,567** Files checked for accessibility in 2019-2020 academic year
- **8,149,409** HTML items checked for accessibility in 19-20 academic year
- **281,608** Alternative Formats downloaded through Ally in one year
- **34,082** Files improved through the Instructor Feedback in one year

Institutional Report Data

The "Overall Files Score" in the table represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) uploaded to the LMS during the 2019-2020 academic year. For the four accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue.

Accessibility numbers across the four states reflect national averages. Given the volume of files with critical issues, institutions require a scalable, data-informed approach. The **Institutional Report** allows admins and campus leaders to proactively identify problem areas, allocate resources strategically, and benchmark progress on key issues and courses.

Alternative Formats Usage

21 institutions with Alternative Formats enabled in Spring 2020 courses saw an average of **1.09 downloads per FTE, a 40% increase from Fall 2019**. On average in Spring 2020, **3,371** students per week downloaded **2.70 Alternative Formats**. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In the past year, **42% of indicator clicks resulted in an attempt to fix the file** through the Instructor Feedback and **84% of attempted fixes resulted in an improved accessibility score**. Consistent with national data, images were the most commonly improved file type (65% of all files fixed across the four states). Images were followed by Word Docs (18.6%) PDFs (10%), and Presentations (6%). **9,983** of files altered (29% of total) were initiated through the **Course Accessibility Report**.

Providing instructors with accessibility feedback and guidance within their course workflow helps institutions scale professional development and make a sustainable impact on inclusive education.

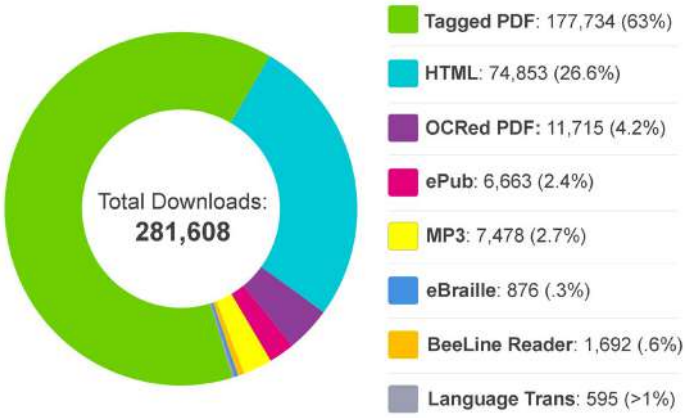
Avg. Accessibility Scores and Critical Issues: 2019-2020

File Score and Issues	Small	Medium	Large
Overall Files Score	**51.4%**	**47.7%**	**44.5%**
Scanned PDFs **(% of Total PDFs)**	3,044 **(16%)**	7,295 **(17%)**	30,048 **(18%)**
Untagged PDFs **(% of Total PDFs)**	6,740 **(33%)**	16,312 **(36%)**	77,373 **(44%)**
Docs Missing Headings **(% of Total Docs)**	16,105 **(27%)**	26,704 **(28%)**	128,431 **(26%)**
Images Missing Description **(% of Total Images)**	33,783 **(82%)**	32,496 **(90%)**	297,534 **(91%)**

Small = 250- - 3,200 FTE (14 institutions); Medium = 3,500 - 8,900 FTE (14); Large = 9,000 - 56,000 FTE (8)

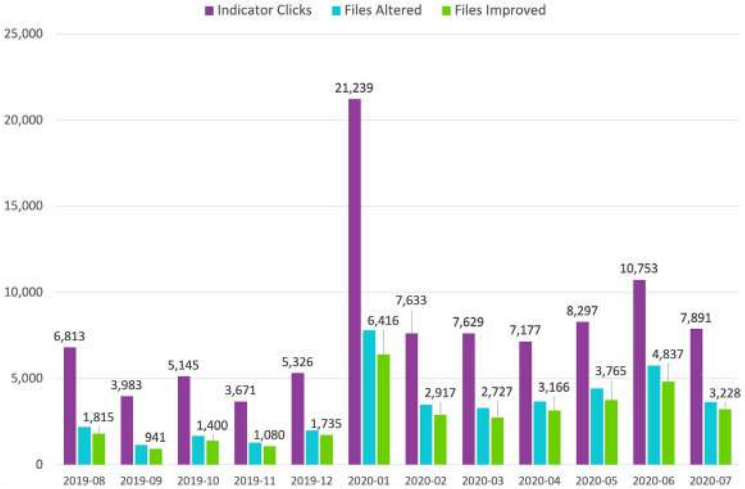
Alternative Format Downloads by Format: 12 months

*BeeLine Reader and Language Translation was available in a limited number of courses



Engagement with Instructor Feedback over 12 months

"Files altered and improved" are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education across the DMV

Colleges and universities in the District of Columbia, Maryland, and Virginia serve a diverse population of students with a variety of learning needs , language backgrounds, and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

View overall accessibility trends in the LMS over time. Focus at the issue level or course level for strategic planning and benchmarking. Analyze detailed usage data of Ally tools.

Alternative Formats

Machine learning algorithms automatically generate eight unique file formats from the instructor original. Improve accessibility and usability of course files for all students. Increase learner flexibility and options for engagement.

Instructor Feedback

Accessibility indicators next to course files raise awareness and prompt engagement. Guidance helps faculty address issues and develop authoring skills. Course Accessibility Report provides actionable insights to faculty.

Ally Adoption across the DMV

21 Colleges and Universities currently with Ally in the LMS

193,750 Students benefiting from Ally (based on full-time enrollment)

4,747,263 Files checked for accessibility in 2019-2020 academic year

5,246,442 HTML items checked for accessibility in 19-20 academic year

162,082 Alternative Formats downloaded through Ally in one year

10,610 Files improved through the Instructor Feedback in one year

Institutional Report Data

The "Overall Files Score" in the table represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) uploaded to the LMS during the 2019-2020 academic year. For the four accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue.

Accessibility numbers across the DMV reflect national averages. Given the volume of files with critical issues, institutions require a scalable, data-informed approach. The **Institutional Report** allows admins and campus leaders to proactively identify problem areas, allocate resources strategically, and benchmark progress on key issues and courses.

Alternative Formats Usage

10 institutions with Alternative Formats enabled in Spring 2020 courses saw an average of **1.50 downloads per FTE, a 27% increase from Fall 2019**. On average in Spring 2020, **3,371** students per week downloaded **2.70 Alternative Formats**. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In the past year, **39% of indicator clicks resulted in an attempt to fix the file** through the Instructor Feedback and **80% of attempted fixes resulted in an improved accessibility score**. Consistent with national data, images were the most commonly improved file type (73.6% of all files fixed across the DMV). Images were followed by PDFs (14%), Word Docs (8.2%), and Presentations (4.2%). **782** of files altered (7.4% of total) were initiated through the **Course Accessibility Report**.

Providing instructors with accessibility feedback and guidance within their course workflow helps institutions scale professional development and make a sustainable impact on inclusive education.

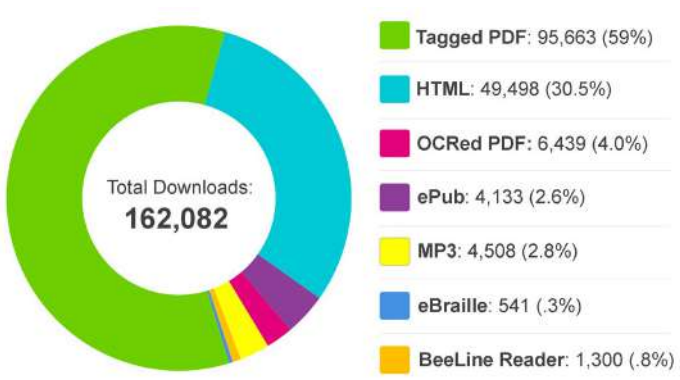
Avg. Accessibility Scores and Critical Issues: 2019-2020

File Score and Issues	Small	Medium	Large
Overall Files Score	**47.1%**	**46.5%**	**40.6%**
Scanned PDFs **(% of Total PDFs)**	2,893 **(14%)**	14,700 **(15%)**	32,709 **(15%)**
Untagged PDFs **(% of Total PDFs)**	6,899 **(36%)**	14,700 **(37%)**	117,794 **(49%)**
Docs Missing Headings **(% of Total Docs)**	13,968 **(29%)**	22,455 **(27%)**	105,073 **(26%)**
Images Missing Description **(% of Total Images)**	17,409 **(82%)**	24,393 **(92%)**	119,379 **(84%)**

Small = 850- - 3,200 FTE (8 institutions); Medium = 3,500 - 7,500 FTE (7); Large = 10,000 - 36,000 FTE (6)

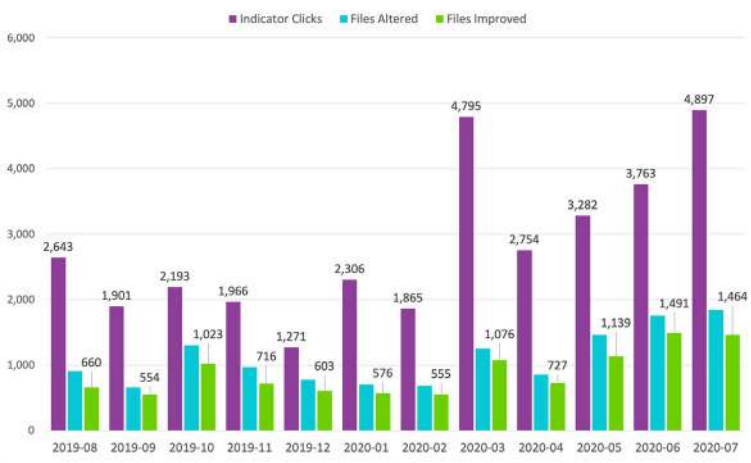
Alternative Format Downloads by Format: 12 months

*BeeLine Reader and Language Translation were available in a limited number of courses



Engagement with Instructor Feedback over 12 months

"Files altered and improved" are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the Garden State

Colleges and universities throughout New Jersey serve a diverse population of students with a variety of learning needs and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

View overall accessibility trends in the LMS over time. Focus at the issue level or course level for strategic planning and benchmarking. Analyze detailed usage data of Ally tools.

Alternative Formats

Machine learning algorithms automatically generate eight unique file formats from the instructor original. Improve accessibility and usability of course files for all students. Increase learner flexibility and options for engagement.

Instructor Feedback

Accessibility indicators next to course files raise awareness and prompt engagement. Guidance helps faculty address issues and develop authoring skills. Course Accessibility Report provides actionable insights to faculty.

Ally Adoption in New Jersey

- **26** Institutions currently with Ally in the Learning Management System
- **163,911** Students benefiting from Ally (based on full-time enrollment)
- **6,761,343** Files checked for accessibility in 2019-2020 academic year
- **4,561,370** HTML pages-items checked for accessibility in 19-20
- **435,927** Alternative Formats downloaded through Ally in 12 months
- **11,915** Files improved through the Instructor Feedback in 12 months

Institutional Report Data

The "Overall Files Score" in the table represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) uploaded to the LMS during the 2019-2020 academic year. For the four accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue.

The average files score in NJ are consistent with national averages. Given the volume of files still with critical issues, institutions require a scalable, data-informed approach. The **Institutional Report** allows admins and campus leaders to proactively identify problem areas, allocate resources strategically, and benchmark progress on key issues and courses.

Alternative Formats Usage

Over 27,000 students downloaded an Alternative Format in Spring 2020, and institutions saw an average of **1.7 downloads per FTE**. On average in Spring 2020, **3,422** students per week downloaded **2.78 Alternative Formats**. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In the past year, **30% of indicator clicks resulted in an attempt to fix the file** through the Instructor Feedback and **84% of attempted fixes resulted in an improved accessibility score**. Consistent with national data, images were the most commonly improved file type (70.4% of all files fixed in NJ). Images were followed by PDFs (16.3%), Word Docs (9.4%), and Presentations (3.5%). **Over 1,500** of files altered (12% of total) were initiated through the **Course Accessibility Report**.

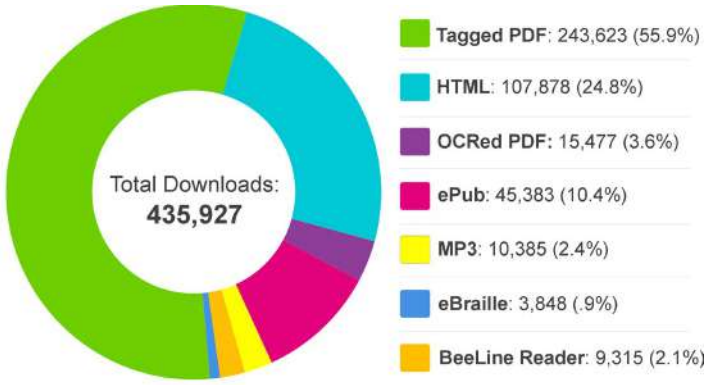
Providing instructors with accessibility feedback and guidance within their course workflow helps institutions scale professional development and make a sustainable impact on inclusive education.

Avg. Accessibility Scores and Critical Issues: 2019-2020

File Score and Issues	Small	Medium	Large
Overall Files Score	**50.5%**	**44.6%**	**43.7%**
Scanned PDFs **(% of Total PDFs)**	5,408 **(13%)**	6,889 **(13%)**	17,153 **(17%)**
Untagged PDFs **(% of Total PDFs)**	18,296 **(34%)**	20,153 **(37%)**	46,332 **(47%)**
Docs Missing Headings **(% of Total Docs)**	23,469 **(23%)**	32,838 **(27%)**	54,510 **(26%)**
Images Missing Description **(% of Total Images)**	27,260 **(72%)**	42,487 **(68%)**	56,102 **(75%)**

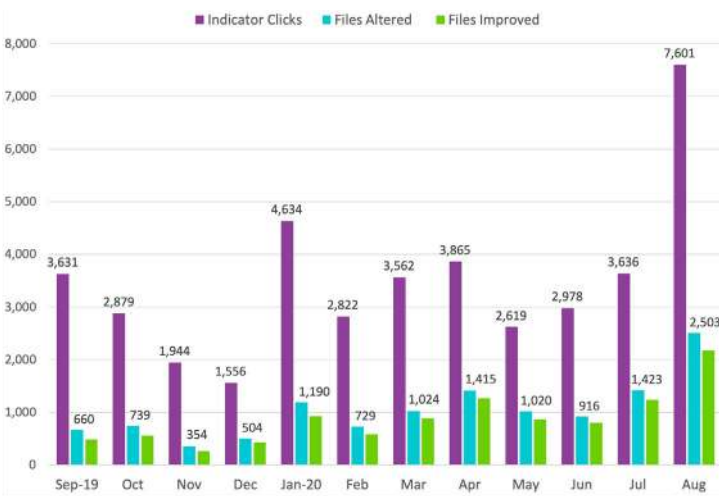
Small = 400- - 3,950 FTE (9 institutions); Medium = 4,500 - 7,000 FTE (9); Large = 8,500 - 19,000 FTE (6)

Alternative Format Downloads by Format: 12 months



Engagement with Instructor Feedback over 12 months

"Files altered and improved" are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the Mountain West

Colleges and universities throughout the states of Utah, Colorado, Idaho, and Wyoming serve a diverse population of students with a variety of learning needs, language backgrounds, and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

View overall accessibility trends in the LMS over time. Focus at the issue level or course level for strategic planning and benchmarking. Analyze detailed usage data of Ally tools.

Alternative Formats

Machine learning algorithms automatically generate eight unique file formats from the instructor original. Improve accessibility and usability of course files for all students. Increase learner flexibility and options for engagement.

Instructor Feedback

Accessibility indicators next to course files raise awareness and prompt engagement. Guidance helps faculty address issues and develop authoring skills. Course Accessibility Report provides actionable insights to faculty.

Ally Adoption in Mountain West

- **18** Colleges and Universities currently with Ally in the LMS
- **209,803** Students benefiting from Ally (based on full-time enrollment)
- **7,880,836** Files checked for accessibility in 2019-2020 academic year
- **7,536,013** HTML items checked for accessibility in 19-20 academic year
- **315,422** Alternative Formats downloaded through Ally in 2020
- **47,047** Files improved through the Instructor Feedback in 2020

Institutional Report Data

The “Overall Files Score” in the table represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) iuploaded to the LMS during the 2019-2020 academic year. For the four accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue.

Accessibility numbers across the Mountain West reflect national averages. Given the volume of files with critical issues, institutions require a scalable, data-informed approach. The **Institutional Report** allows admins and campus leaders to proactively identify problem areas, allocate resources strategically, and benchmark progress on key issues and courses.

Alternative Formats Usage

Colleges and universities in the Mountain West saw an average of .94 **downloads per FTE in Fall 2020, a 54% increase from Fall 2019**. On average in Fall 2020, **4,964** students per week downloaded **2.04 Alternative Formats**. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In 2020, **49% of indicator clicks resulted in an attempt to fix the file** through the Instructor Feedback and **89% of attempted fixes resulted in an improved accessibility score**. Consistent with national data, images were the most commonly improved file type (75% of all files fixed in the Mountain West). Images were followed by PDFs (16%) Word Docs (5.4%), and Presentations (3.3%). **6,681** of files altered (13% of total) were initiated through the **Course Accessibility Report**.

Providing instructors with accessibility feedback and guidance within their course workflow helps institutions scale professional development and make a sustainable impact on inclusive education.

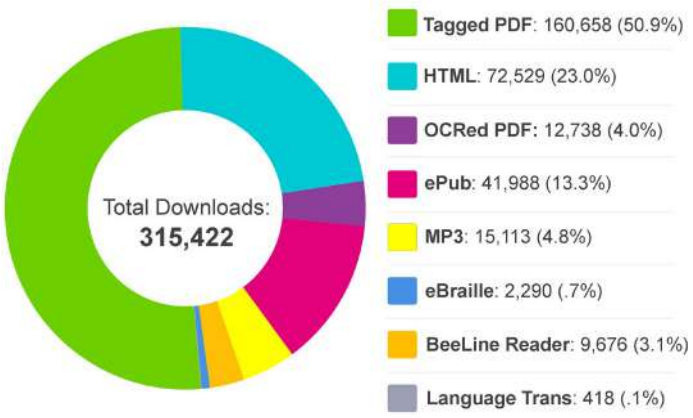
Avg. Accessibility Scores and Critical Issues: 2019-2020

File Score and Issues	Small	Medium	Large
Overall Files Score	**49.3%**	**49.0%**	**40.9%**
Scanned PDFs **(% of Total PDFs)**	6,217 **(17%)**	11,065 **(19%)**	48,412 **(16%)**
Untagged PDFs **(% of Total PDFs)**	13,102 **(34%)**	22,368 **(33%)**	143,007 **(47%)**
Docs Missing Headings **(% of Total Docs)**	22,727 **(31%)**	34,956 **(25%)**	129,732 **(25%)**
Images Missing Description **(% of Total Images)**	21,551 **(83%)**	94,519 **(84%)**	208,642 **(81%)**

Small = 1,000 - 4,000 FTE (6 institutions); Medium = 5,000 - 9,000 FTE (4); Large = 15,000 - 29,000 FTE (8)

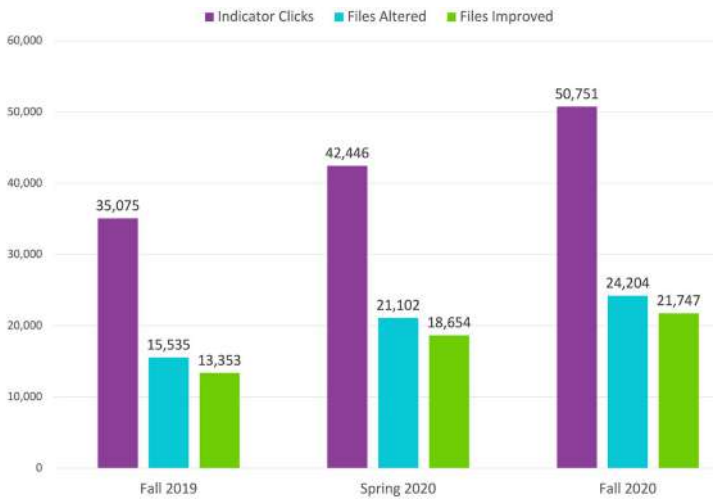
Alternative Format Downloads by Format in 2020

*BeeLine Reader became available in March 2020; Language Translation was available in a limited number of courses



Engagement with Instructor Feedback over Three Terms

“Files altered and improved” are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the Evergreen State

Colleges and universities throughout Washington serve a diverse population of students with a variety of learning needs and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

View overall accessibility trends in the LMS over time. Focus at the issue level or course level for strategic planning and benchmarking. Analyze detailed usage data of Ally tools.

Alternative Formats

Machine learning algorithms automatically generate eight unique file formats from the instructor original. Improve accessibility and usability of course files for all students. Increase learner flexibility and options for engagement.

Instructor Feedback

Accessibility indicators next to course files raise awareness and prompt engagement. Guidance helps faculty address issues and develop authoring skills. Course Accessibility Report provides actionable insights to faculty.

Ally Adoption in Washington

35 Institutions currently using Ally in the Learning Management System

219,403 Students benefiting from Ally (based on full-time enrollment)

12,592,579 Files checked for accessibility in 2019-2020 academic year

11,721,326 HTML pages-items checked for accessibility in 19-20

428,388 Alternative Formats downloaded through Ally in 2020

56,185 Files improved through the Instructor Feedback in 2020

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Institutional Report Data

The "Overall Files Score" in the table represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) uploaded to the LMS during the 2019-2020 academic year. For the four accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue.

Accessibility numbers across Washington reflect national averages. Given the volume of files with critical issues, institutions require a scalable, data-informed approach. The **Institutional Report** allows admins and campus leaders to proactively identify problem areas, allocate resources strategically, and benchmark progress on key issues and courses.

Alternative Formats Usage

Over 54,000 students downloaded an Alternative Format in Fall 2020, and institutions saw an average of **.99 downloads per FTE**. On average in Fall 2020, **4,130** students per week downloaded **2.22 Alternative Formats**. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In 2020, **52% of indicator clicks resulted in an attempt to fix the file** through the Instructor Feedback and **87% of attempted fixes resulted in an improved accessibility score**. Consistent with national data, images were the most commonly improved file type (83% of all files fixed). Images were followed by PDFs (10%), Word Docs (5.8%), and Presentations (1.2%). **Over 12,000** of files altered (15% of total) were initiated through the **Course Accessibility Report**.

Providing instructors with accessibility feedback and guidance within their course workflow helps institutions scale professional development and make a sustainable impact on inclusive education.

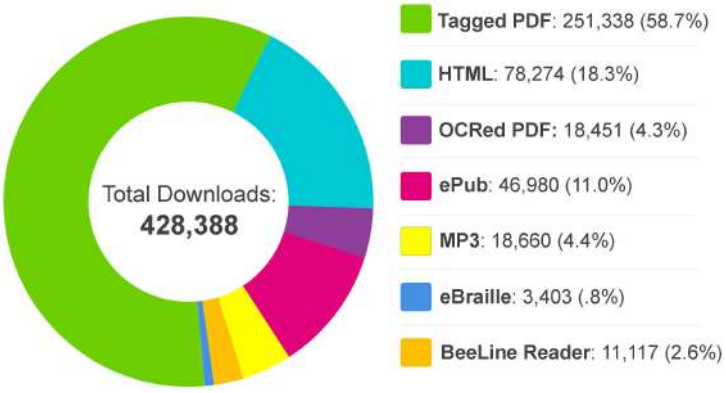
Avg. Accessibility Scores and Critical Issues: 2019-2020

File Score and Issues	Small	Medium	Large
Overall Files Score	**47.2%**	**46.1%**	**41.6%**
Scanned PDFs **(% of Total PDFs)**	9,323 **(20%)**	20,836 **(18%)**	82,530 **(19%)**
Untagged PDFs **(% of Total PDFs)**	17,369 **(36%)**	41,710 **(35%)**	253,181 **(45%)**
Docs Missing Headings **(% of Total Docs)**	39,661 **(30%)**	92,016 **(30%)**	217,185 **(26%)**
Images Missing Description **(% of Total Images)**	55,660 **(81%)**	126,100 **(84%)**	204,686 **(85%)**

Small = 1,700- - 4,700 FTE (19 institutions); Medium = 5,000 - 8,000 FTE (12); Large = 10,000 - 55,000 FTE (3)

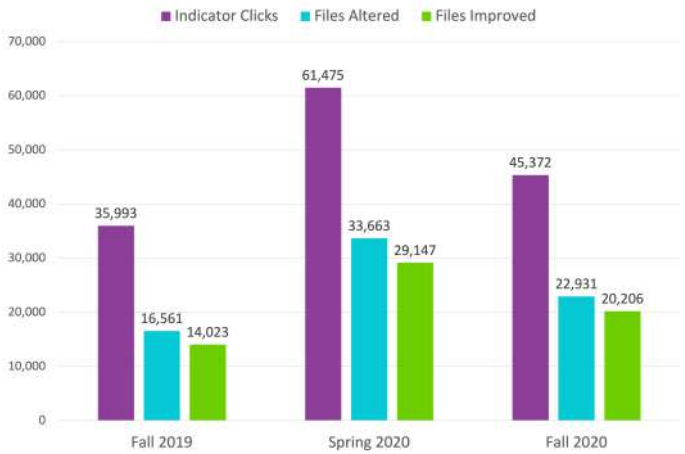
Alternative Format Downloads by Format in 2020

*BeeLine Reader became available in March 2020



Engagement with Instructor Feedback over Three Terms

"Files altered and improved" are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the Sunflower State

Colleges and universities throughout the state of Kansas serve a diverse population of students with a variety of learning needs, language backgrounds, and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

View overall accessibility trends in the LMS over time. Focus at the issue level or course level for strategic planning and benchmarking. Analyze detailed usage data of Ally tools.

Alternative Formats

Machine learning algorithms automatically generate eight unique file formats from the instructor original. Improve accessibility and usability of course files for all students. Increase learner flexibility and options for engagement.

Instructor Feedback

Accessibility indicators next to course files raise awareness and prompt engagement. Guidance helps faculty address issues and develop authoring skills. Course Accessibility Report provides actionable insights to faculty.

Ally Adoption in Kansas

- **11** Colleges and Universities currently with Ally in the LMS
- **59,420** Students benefiting from Ally (based on full-time enrollment)
- **3,111,801** Files checked for accessibility in 2019-2020 academic year
- **2,584,145** HTML items checked for accessibility in 19-20 academic year
- **105,741** Alternative Formats downloaded through Ally in 2020
- **23,112** Files improved through the Instructor Feedback in 2020

Twitter: #BbAlly | Join the Ally User Group: usergroup.ally.ac

Institutional Report Data

The “Overall Files Score” in the table represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) iuploaded to the LMS during the 2019-2020 academic year. For the four accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue.

Accessibility numbers across Kansas reflect national averages. Given the volume of files with critical issues, institutions require a scalable, data-informed approach. The **Institutional Report** allows admins and campus leaders to proactively identify problem areas, allocate resources strategically, and benchmark progress on key issues and courses.

Alternative Formats Usage

Colleges and universities in Kansas saw an average of **1.97 downloads per FTE in Fall 2020, a 91% increase from Spring 2020**. On average in Fall 2020, **1,239** students per week downloaded **2.44 Alternative Formats**. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In 2020, **60% of indicator clicks resulted in an attempt to fix the file** through the Instructor Feedback and **91% of attempted fixes resulted in an improved accessibility score**. Consistent with national data, images were the most commonly improved file type (76% of all files fixed in KS). Images were followed by PDFs (13%) Word Docs (7.5%), and Presentations (3.2%). **8,865** of files altered (35% of total) were initiated through the **Course Accessibility Report**.

Providing instructors with accessibility feedback and guidance within their course workflow helps institutions scale professional development and make a sustainable impact on inclusive education.

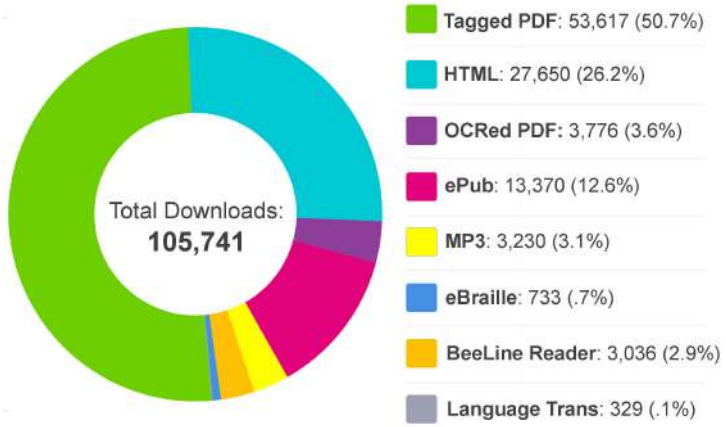
Avg. Accessibility Scores and Critical Issues: 2019-2020

File Score and Issues	<5,000	>5,000
Overall Files Score	**50.2%**	**44.2%**
Scanned PDFs **(% of Total PDFs)**	3,933 **(15%)**	9,992 **(13%)**
Untagged PDFs **(% of Total PDFs)**	9,091 **(30%)**	24,889 **(40%)**
Docs Missing Headings **(% of Total Docs)**	16,845 **(24%)**	39,225 **(30%)**
Images Missing Description **(% of Total Images)**	27,298 **(76%)**	97,322 **(81%)**

Less than 5,000 FTE - 7 institutions; More than 5,000 FTE - 4 institutions

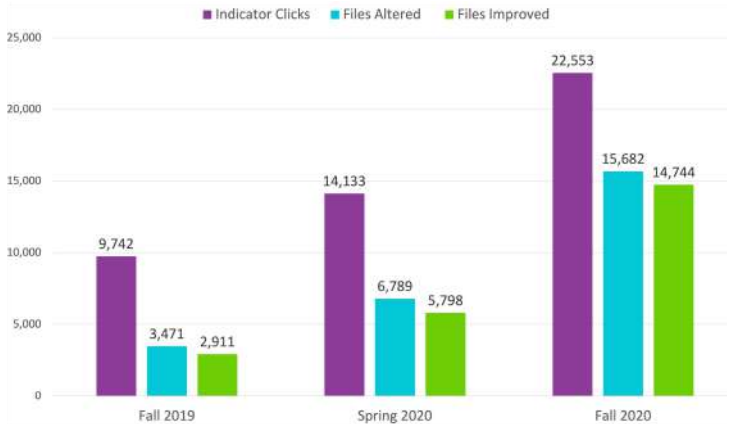
Alternative Format Downloads by Format in 2020

*BeeLine Reader became available in March 2020; Language



Engagement with Instructor Feedback over Three Terms

“Files altered and improved” are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the Yellowhammer State

Colleges and universities throughout the state of Alabama serve a diverse population of students with a variety of learning needs , language backgrounds, and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

View overall accessibility trends in the LMS over time. Focus at the issue level or course level for strategic planning and benchmarking. Analyze detailed usage data of Ally tools

Alternative Formats

Machine learning algorithms automatically generate eight unique file formats from the instructor original. Improve accessibility and usability of course files for all students. Increase learner flexibility and options for engagement

Instructor Feedback

Accessibility indicators next to course files raise awareness and prompt engagement. Guidance helps faculty address issues and develop authoring skills. Course Accessibility Report provides actionable insights to faculty.

Ally Adoption in Alabama

28 Colleges and Universities currently with Ally in the LMS

117,580 Students benefiting from Ally (based on full-time enrollment)

2,491,526 Files checked for accessibility in 2019-2020 academic year

3,833,659 HTML items checked for accessibility in 19-20 academic year

223,796 Alternative Formats downloaded through Ally in 2020

12,982 Files improved through the Instructor Feedback in 2020

Twitter: #BbAlly | Join the Ally User Group: usergroup.ally.ac

Institutional Report Data

The "Overall Files Score" in the table represents the average accessibility scores of files (PDFs, Word, PowerPoint, Images) uploaded to the LMS during the 2019-2020 academic year. For the four accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue.

Accessibility numbers across Alabama reflect national averages. Given the volume of files with critical issues, institutions require a scalable, data-informed approach. The **Institutional Report** allows administrators and campus leaders to proactively identify problem areas, allocate resources strategically, and benchmark progress on key issues and courses.

Alternative Formats Usage

Colleges and universities in Alabama saw an average of **2.19 downloads per FTE in Fall 2020, a 114% increase from Spring 2020**. On average in Fall 2020, **3,295** students per week downloaded **2.68 Alternative Formats**. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In 2020, **49% of indicator clicks resulted in an attempt to fix the file** through the Instructor Feedback and **90% of attempted fixes resulted in an improved accessibility score**. Consistent with national data, images were the most commonly improved file type (74% of all files fixed in AL). Images were followed by PDFs (13%), Word Docs (8.9%), and Presentations (3.5%). **7,377** of files altered (51% of total) were initiated through the **Course Accessibility Report**.

Providing instructors with accessibility feedback and guidance within their course workflow helps institutions scale professional development and make a sustainable impact on inclusive education.

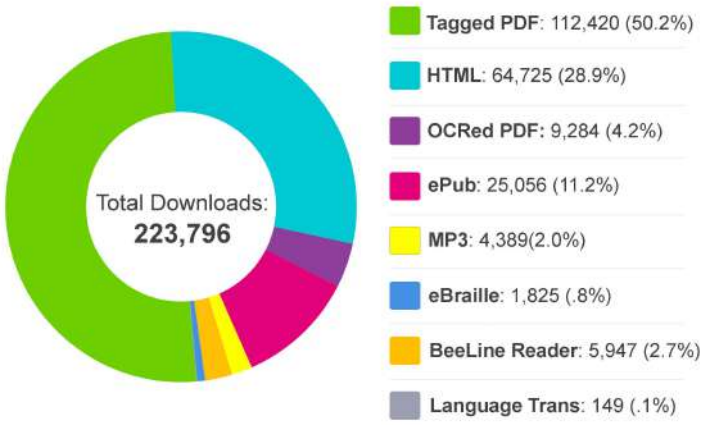
Avg. Accessibility Scores and Critical Issues: 2019-2020

File Score and Issues	<5,000	>5,000
Overall Files Score	**44.0%**	**45.5%**
Scanned PDFs **(% of Total PDFs)**	2,111 **(17%)**	10,059 **(14%)**
Untagged PDFs **(% of Total PDFs)**	5,035 **(34%)**	29,112 **(34%)**
Docs Missing Headings **(% of Total Docs)**	12,794 **(30%)**	26,757 **(26%)**
Images Missing Description **(% of Total Images)**	25,900 **(91%)**	57,274 **(88%)**

Less than 5,000 FTE - 23 institutions; More than 5,000 FTE - 4 institutions

Alternative Format Downloads by Format in 2020

*BeeLine Reader became available in March 2020



Engagement with Instructor Feedback over Three Terms

"Files altered and improved" are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS

Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the United Kingdom

Universities throughout the United Kingdom serve a diverse population of students with a variety of learning needs and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

Institutional Report

View overall accessibility trends in the LMS over time. Focus at the issue level or course level for strategic planning and benchmarking. Analyze detailed usage data of Ally tools.

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Instructor Feedback

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Ally Adoption in the U.K.

33 Universities currently using Ally in the Virtual Learning Environment

479,360 Students benefiting from Ally (based on full-time enrollment)

6,286,224 Files checked for accessibility in 2019-2020 academic year

5,291,225 HTML items checked for accessibility in 19-20 academic year

1,018,438 Alternative Formats downloaded through Ally in 9 months

22,051 Files improved through the Instructor Feedback in 9 months

Twitter: #BbAlly | Join the Ally User Group: usergroup.ally.ac

Accessibility Trends and Ally Usage in Universities across the United Kingdom

Study Context

Providing students with disabilities equitable opportunities for academic success is fundamental to the broader mission of higher education in the U.K. Since the digital accessibility regulations went into effect across Europe and the U.K. in September 2018, efforts to proactively address barriers to educational access have accelerated. These efforts include an increased focus on the accessibility of digital course content uploaded to the Virtual Learning Environment (VLE), which can directly impact students' abilities to successfully participate in their courses. To provide higher education institutions with guidance on how to meet the requirements of the accessibility regulations, the All-Party Parliamentary Group for Assistive Technology and Policy Connect assembled a report entitled "Accessible Virtual Learning Environments."

Beyond supporting students with disclosed disabilities, a pedagogical approach informed by Universal Design for Learning (UDL) principles can improve the learning experiences for all students. In his Accessibility Maturity Model for Education, inclusivity expert Alistair McNaught makes the case that "Accessibility is an emergent property of high quality teaching and learning." As institutions move to consider inclusivity as an integral component of effective course design, there is an increasing need to understand current barriers to access with digital content, strategies for addressing those barriers, and the adoption and usage of UDL tools on teaching and learning. This paper takes up this line of inquiry by exploring data from the Blackboard Ally accessibility solution.

Data Set and Research Questions

Analysing data collected from the Blackboard Ally software, this paper focuses on content accessibility and Ally tool usage by students and instructors at universities across the U.K. The data set includes 33 universities with Ally enabled in their VLE courses during the Autumn 2019 and Spring 2020 term. While term durations vary based on an institution's academic calendar, for the purposes of the study, Autumn 2019 includes Ally data events from August through December and Spring 2020 includes data events from January through the first week of May.

? *How are overall accessibility scores and critical accessibility issues in the VLE changing over time?*

? *How do students make use of digital course content available in different modalities and formats?*

? *How do instructors use feedback in their courses to address accessibility issues with their course materials?*

Summary of Sections and Key Findings

The analysis is organized into three sections, where each section explores one of the three core components of the Blackboard Ally Solution:

Institutional Report

The first part of the paper aggregates accessibility data represented in the Institutional Reports of the 33 unis from the 2018-2019 and 2019-2020 academic years. Data include average overall files score, WYSIWYG score, and prevalence of accessibility barriers across four critical issues. Findings suggest accelerated improvement in overall accessibility score compared to historical trends identified in previous research. Progress on specific critical issues varied by issue and by institution, while those with the most overall progress made the largest gains on images missing description and untagged PDFs.

Alternative Formats

The second part analyses usage of the Alternative Formats during the two terms. Though PDFs were the most prevalent file type in courses, Presentations were most frequently downloaded as alt formats, largely as Tagged PDFs. There was an overall uptick in average downloads between Autumn and Spring, when 11 unis exceeded 1.5 downloads per FTE.

Instructor Feedback and Course Accessibility Report

The third part examines usage of the Instructor Feedback and Course Accessibility Report (CAR) during the two terms. While accessibility indicators for PDF files were most frequently engaged, Image files had the most improvements. For the 50 courses with the most files improved, 60% of the file fixes were done through the CAR. By comparison, across all courses, files fixed through the CAR accounted for just 26% of total fixes.

Institutional Report Data

Avg. Accessibility Scores and Critical Issues: 2018-1

Overall Scores and Issues	Small	Medium	Large
Overall Files Score	**42.5%**	**45.2%**	**41.1%**
Overall WYSIWYG Score	**97.3%**	**97.1%**	**97.3%**
Scanned PDFs **(% of Total PDFs)**	2,908 **(13%)**	8,507 **(12%)**	16,973 **(15%)**
Untagged PDFs **(% of Total PDFs)**	8,254 **(41%)**	25,876 **(41%)**	54,726 **(44%)**
Docs Missing Headings **(% of Total Docs)**	12,439 **(25%)**	34,022 **(25%)**	51,162 **(24%)**
Images Missing Description **(% of Total Images)**	10,998 **(82%)**	22,592 **(83%)**	34,065 **(85%)**

Avg. Accessibility Scores and Critical Issues: 2019-20

Overall Scores and Issues	Small	Medium	Large
Overall Files Score	**44.5%**	**48.0%**	**45.9%**
Overall WYSIWYG Score	**96.8%**	**96.9%**	**96.5%**
Scanned PDFs **(% of Total PDFs)**	2,123 **(13%)**	5,015 **(11%)**	11,052 **(12%)**
Untagged PDFs **(% of Total PDFs)**	6,952 **(42%)**	19,915 **(43%)**	45,854 **(44%)**
Docs Missing Headings **(% of Total Docs)**	9,987 **(23%)**	24,657 **(23%)**	40,383 **(23%)**
Images Missing Description **(% of Total Images)**	8,482 **(81%)**	16,393 **(82%)**	37,154 **(75%)**

The tables above compare accessibility data for the 2018-2019 and 2019-2020 academic years from the Ally **Institutional Reports** for the 33 U.K. universities across the three FTE bands. The "Files Score" and "WYSIWYG Score" are the average scores of files (PDFs, Word, PowerPoint, Images) added to the VLE and HTML content created using the VLE editor respectively during the two academic years.

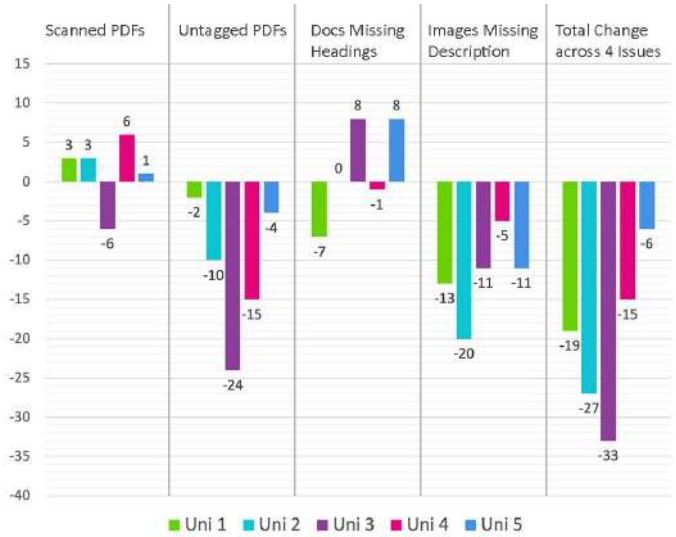
Each score approximates how closely the file or HTML item meets WCAG 2.1 AA standards that can be checked using automated tools. The tables also compare the average number of files with critical accessibility issues between the two academic years. The percentage score is the total number of files with the issue out of the total number of files in that academic year that could be affected by that issue.

Assessing Progress on Key Issues

Across all 33 unis, the average **Files Score increased by 3.3 percentage points** between the two academic years. By comparison, a previous data study of a random sample of 700,000 courses found an increase in Files Score of just three percentage points over *five years*. Given the large number of files with severe accessibility issues and the slow pace of improvement historically, these initial gains appear promising. Progress at the issue-level, however, is less consistent, with slight gains and regressions across the four issues and FTE bands.

For the five unis that made the most total progress on critical issues (illustrated below), missing image descriptions saw the largest reduction in files with the issue, followed by untagged PDFs. Despite the significant progress on some issues, none of the 33 unis made progress on all four critical issues, perhaps an impact of the transition to remote instruction during COVID-19.

Changes in Percentage of Files with Critical Issues between 2018-19 and 2019-20: Top 5 Performing Unis



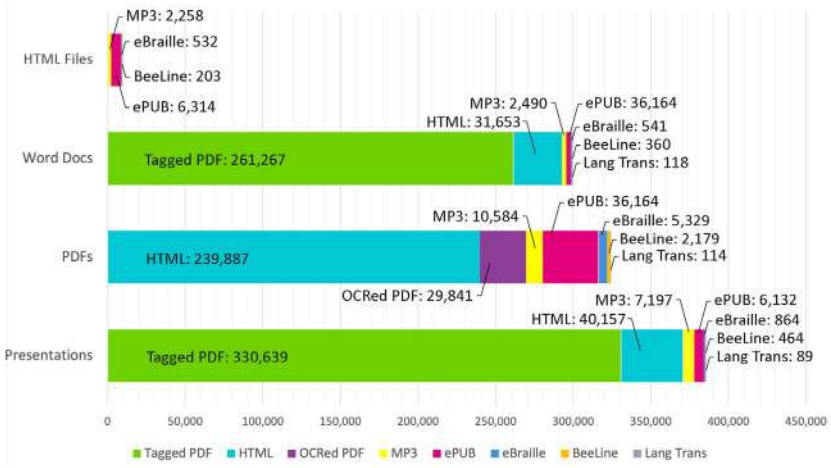
Engagement with Alternative Formats

In the past nine months (August 2019 to May 2020), U.K. unis downloaded **over 1 million** Alt Formats, a **681% increase** from the prior year. Tagged PDF and HTML accounted for 89% of Alt Format downloads, consistent with the breakdown of downloads in the U.S. ePUB accounted for 5% of total downloads, followed by OCRed PDF (3%), and Audio MP3 (2.2%). While PDF was the file type most added to the VLE during the academic year, Presentations were most frequently downloaded as an Alternative Format.

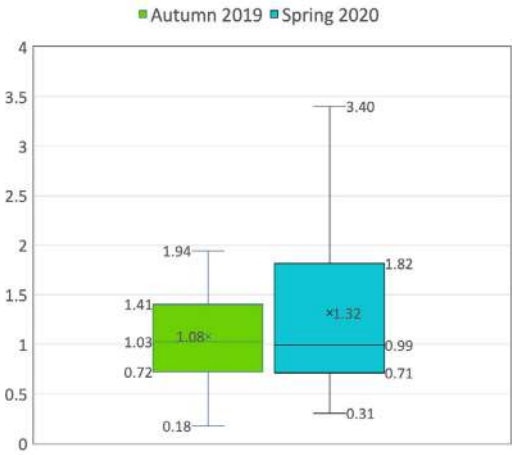
- **592K Tagged PDFs** were downloaded from **1.67M** Docs and Presentations
- **29K OCRed PDFs** were downloaded from **305K** Scanned PDFs
- **311K HTML** files were downloaded from **3.37M** PDFs, Docs, and Presentations

Total Files Downloaded as Alt Format by File Type over 9 months

*BeeLine Reader and Language Translation were available in a limited number of courses



Alt Format Downloads per FTE: 28 Unis with Ally Active in Courses



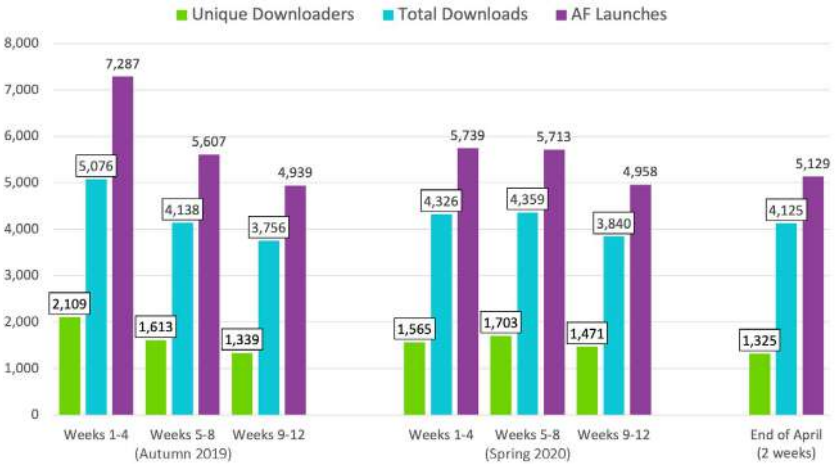
11 of the 28 unis represented in the Spring 2020 box plot to the right exceeded **1.5 downloads per FTE**, while the median number of downloads per FTE was comparable to that of research universities in the U.S. Over nine months, the average number of Alt Format downloads and range per size category were:

- Small: **10,623** (range of 2,563 to 34,605 downloads)
- Medium: **32,691** (range of 6,679 to 67,452 downloads)
- Large: **59,642** (range of 5,377 to 141,436 downloads)

Between the Autumn 2019 term and Spring 2020 term, the average number of downloads increased by 32% for small unis, 19% for medium unis, and 5% for large unis.

Focusing on the Autumn 2019 term represented in the bar graphs to the right, while the number of unique student downloaders decreased by 33% from the first three weeks to the last three weeks of the term, the number of downloads per downloader **increased from 2.40 to 2.80. The conversion rate between clicking the Alt Format icon and downloading a format increased ten percentage points.** When considering drop-out rate and other factors affecting the number of students engaged with the VLE at the end of term, the decrease in unique downloaders appears consistent with findings in the U.S. The peak usage at the start of the Autumn 2019 term compared to all other weeks may also be the result of introducing a more prominent download icon that triggered an uptick in students exploring the feature.

Total Alt Format Engagement: 3-Week Avgs. across 12-week terms



Engagement with Instructor Feedback

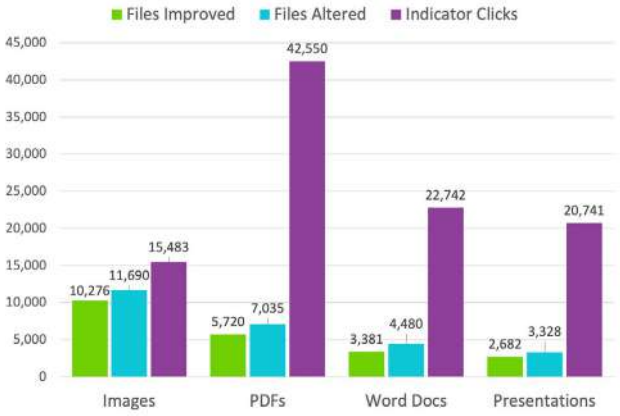
In the past nine months (August 2019 to May 2020), U.K. unis improved the accessibility scores of **over 22,000** files, a **315% increase** from the prior year. During that time, **26%** of indicator clicks resulted in an attempt to fix the file through Ally, and **83%** of files altered resulted in an improved accessibility score. As the bar graphs to the right illustrate, conversion and success rates vary based on file type. Since Images are the only file type that can be fixed directly through the feedback, Images had an **87% conversion rate** compared to less than 20% for the other three file types. Consistent with findings in U.S research universities, images were also the most frequently improved file type, reflected in the progress institutions made on this issue in the previous graph. Given there were nearly twice as many PDFs added to the VLE during the 2019-2020 academic year compared to the other file types, it follows that indicators associated with PDFs would also be the most frequently engaged. Although presentations were the file type most downloaded as an Alt Format, they were the file type least frequently improved. Over nine months, the average number of files improved and range per size category were:

- Small: **354** (range of 36 to 1,259 improvements)
- Medium: **818** (range of 108 to 3,884 improvements)
- Large: **1,089** (range of 71 to 2,472 improvements)

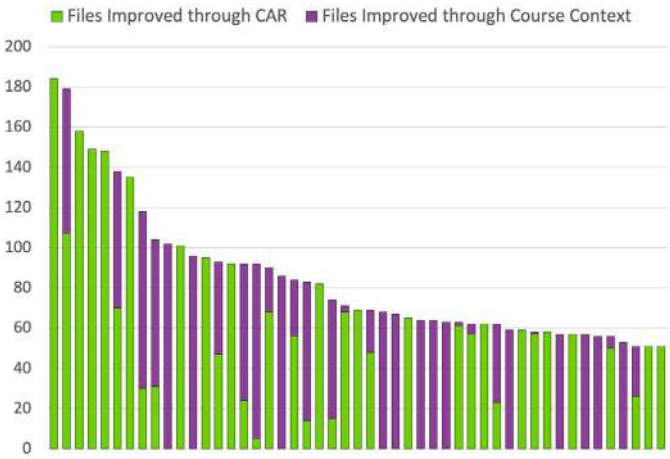
During the nine months, the **Course Accessibility Report (CAR)** was launched **8,852** times by 23 of the 33 unis, resulting in **6,322 files altered, or 26% of the total fixes.** For the 50 courses with the most files improved, **60%** of the file improvements were made through the CAR, and for the top 100 courses, **52%** of files improved were made through the CAR, providing some evidence that the CAR plays an important role in courses making the most progress.

Total Instructor Feedback Engagement by File Type over 9 Months

*"Files altered and improved" are limited to files uploaded through Ally. Additional fixes may be made directly through the VLE 5,629



Comparing CAR Fixes to Course Context Fixes : Top 50 Courses with Most FIles Improved



Insights to Take the Next Step Forward on the Journey to Inclusion

The improvement in average Files Score and progress on specific accessibility issues like missing image descriptions represent important first steps in establishing an institutional culture committed to inclusive design. At the same time, universities can use insights from their Institutional Report to initiate efforts to address issues with less progress. For example, a campaign to create an accessible course syllabus or adopt an accessible Word template may help forge progress on the missing headings issue. Given the strong usage of the Course Accessibility Report in the courses with the most files improved, institutions may consider featuring the CAR more prominently in trainings that target a specific issue. The widespread adoption of the Alternative Formats across institutions demonstrates their value to many more students than those with disclosed disabilities. The concentration of downloads around Tagged PDFs and HTML formats also suggests an opportunity to further educate students on the utility of other formats to support their learning needs and study practices.

Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the Province of Ontario

Colleges and universities throughout the Province of Ontario serve a diverse population of students with a variety of learning needs and abilities. More accessible digital course content delivered in a variety of file formats helps ensure students have access to learning materials that work better with assistive technologies, mobile devices, and study tools. Blackboard Ally integrates into four major Learning Management Systems (LMS) to help institutions address accessibility barriers with course content, increase instructor awareness about accessible content authoring, and improve how students engage with their course materials.

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Ally Adoption in Ontario

9 Colleges and Universities currently using Ally in the LMS

92,818 Students benefiting from Ally (based on full-time enrollment)

1,639,844 Files checked for accessibility in 2019-2020 academic year

916,060 HTML items checked for accessibility in 19-20 academic year

148,989 Alternative Formats downloaded through Ally in 9 months

1,034 Files improved through the Instructor Feedback in 9 months

Twitter: #BbAlly | Join the Ally User Group: usergroup.ally.ac

Institutional Report Data

The "Overall Files Score" and "Overall WYSIWYG Score" in the table represent the average accessibility scores of files (PDFs, Word, PowerPoint, Images) and HTML content respectively uploaded to the LMS during the 2019-20 academic year. For the four accessibility issues listed, the table includes the average number of files affected by the issue, and the percentage of files with the issue out of the total number of files that could be affected by the issue.

Accessibility numbers in Ontario mostly reflect global averages with a slightly lower percentage of scanned PDFs compared to the U.S. Given the volume of files with critical issues, institutions need a scalable, sustainable solution. The **Institutional Report** allows administrators and campus leaders to proactively identify problem areas, allocate resources strategically, and benchmark progress on key issues and courses.

Alternative Formats Usage

The three institutions with Alternative Formats enabled in all their courses saw **2.6 downloads per FTE, exceeding the U.S average by over 145%**. On average, each week during the 2020 term, **1,711 students** downloaded **3.21 formats per week**. The different formats downloaded highlight several important use cases. Low-income students accessing content on devices without MS Office or who need a smaller file size can download a **Tagged PDF** format, while those who rely on mobile devices can download their files in a responsive **HTML format**. The **ePub and BeeLine** reader formats can help students with dyslexia and focus challenges read more effectively. The **MP3** format allows students to review content on-the-go, while pairing the MP3 with text can support English Language Learners and students with processing challenges.

Instructor Feedback Usage

In the past nine months, **26% of indicator clicks resulted in an attempt to fix the file** through the Instructor Feedback and **83% of attempted fixes resulted in an improved accessibility score**. Consistent with national data, images were the most commonly improved file type (85% of all files fixed). Images were followed by PDFs (11%), Word Docs (3%), and PDFs (1%).

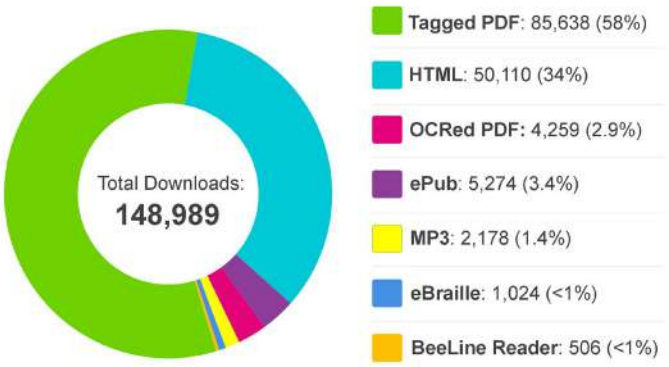
Providing instructors with accessibility feedback and guidance within their course workflow helps institutions scale professional development and make a sustainable impact on inclusive education.

Avg. Accessibility Scores and Critical Issues: 2019-2020

File Score and Issues	<10,000 FTE	>10,000 FTE
Overall Files Score	**50.9%**	**54.0%**
Overall WYSIWYG Score	**96.0%**	**96.4%**
Scanned PDFs **(% of Total PDFs)**	4,011 **(10%)**	11,439 **(8%)**
Untagged PDFs **(% of Total PDFs)**	15,895 **(44%)**	51,384 **(37%)**
Docs Missing Headings **(% of Total Docs)**	24,452 **(26%)**	65,339 **(24%)**
Images Missing Description **(% of Total Images)**	22,747 **(87%)**	92,069 **(86%)**

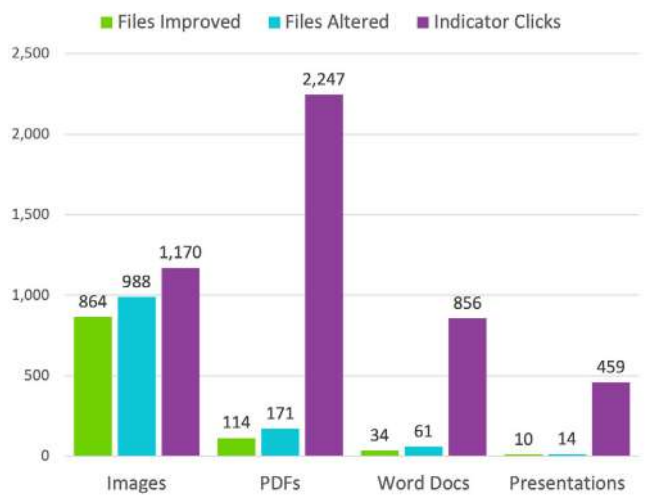
Alternative Format Downloads by Format: 9 months

*BeeLine Reader was available in a limited number of courses



Engagement with Instructor Feedback over 9 months

"Files altered and improved" are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across Australia and New Zealand

This paper explores Ally adoption, accessibility trends, and usage across 12 universities in Australia and New Zealand. Analysis is organized across the three core components of Ally:

Institutional Report

The Institutional Report allows administrators to view overall accessibility trends in Learning Management System courses over time, as well as provides the ability to focus on specific accessibility issues and files.

Question: What are the current average accessibility scores and percentage of files with critical issues for ANZ universities? How do those numbers compare to 2017-2018 numbers and to 2019-2020 accessibility data in the U.S. and U.K?

Alternative Formats

Alternative Formats are generated from the instructor's original and made available to all students within the LMS. Formats are engineered to work better with assistive technologies, mobile devices and study tools.

Question: What are current trends in Alternative Formats usage in ANZ and which types of formats are downloaded most frequently?

Instructor Feedback

Accessibility indicators in the course context help raise awareness about accessibility issues with course content, while feedback and guidance help instructors correct the issues. The Course Accessibility Report (CAR) provides an overview of common issues and suggestions for getting started.

Question: How does engagement with accessibility indicators and feedback vary by file type and score type? How does engagement differ between the CAR and the course context?

Ally Adoption in the ANZ

12 Universities currently using Ally in the Learning Management System

531,396 Students benefiting from Ally (based on total enrollment)

9,384,258 Files checked for accessibility in 2019-2020 academic year

8,645,308 HTML items checked for accessibility in 19-20 academic year

320,843 Alternative Formats downloaded through Ally in 2020

24,151 Files improved through the Instructor Feedback in 2020

Institutional Report Data

ANZ Avg. Accessibility Scores and Critical Issues: 2019-20

Overall Scores and Issues	<30,000	>30,000
Overall Files Score	**47.0%**	**44.3%**
Overall WYSIWYG Score	**96.5%**	**97.1%**
Avg. Scanned PDFs **(% of Total PDFs)**	7,760 **(8.0%)**	49,930 **(8.5%)**
Avg. Untagged PDFs **(% of Total PDFs)**	39,895 **(39.8%)**	245,396 **(45.1%)**
Avg. Docs Missing Headings **(% of Total Docs)**	35,462 **(21.7%)**	152,709 **(20.4%)**
Avg. Images Missing Description **(% of Total Images)**	95,286 **(83.7%)**	322,808 **(75.7%)**

Comparing Accessibility in ANZ to U.S. and U.K.: 2019-2020

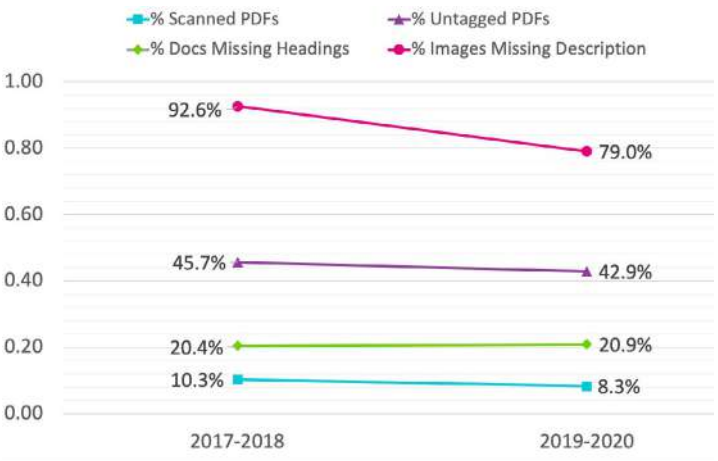
Overall Scores and Issues	ANZ	U.S.	U.K.
Overall Files Score	**45.4%**	**42.7%**	**46.4%**
Overall WYSIWYG Score	**95.8%**	**97.8%**	**96.7%**
% of Scanned PDFs	**8%**	**15%**	**12%**
% of Untagged PDFs	**43%**	**49%**	**43%**
% of Docs Missing Headings	**21%**	**24%**	**23%**
% Images Missing Description	**79%**	**83%**	**79%**

The first table includes average accessibility scores for the 2019-2020 academic year for the 12 universities. Universities are organized into two Equivalent Full-Time Student Load (EFTSL) bands: Less than 30,000 students (5 unis) and more than 30,000 students (7 unis). The "Files Score" and "WYSIWYG Score" represent the average scores of files (PDFs, Word, PowerPoint, Images) added to the LMS and HTML content created using the LMS editor respectively during 2019-2020. Scores approximate how closely the file or HTML item meets WCAG 2.1 AA standards that can be checked using automated tools.

The table also includes the average number of files with critical accessibility issues. The percentage score is calculated by dividing the total number of files with the issue out of the total number of files in that academic year that could be affected by that issue.

The second table compares 2019-2020 ANZ accessibility scores and critical issues to universities in the U.S. and U.K. On average, the **universities in ANZ have a lower average WYSIWYG score but are performing equal to or better than the U.S. and U.K on critical issues affecting file content.** Most noticeably, only 8% of PDFs at universities in ANZ are scanned compared to 10% in the U.K. and 15% in the U.S.

Progress on Critical issues since 2017-2018



Since 2017-2018, the average Files Score for the 12 universities **increased by 5.6 percentage points, from 39.8% to 45.4%**, while the average WYSIWYG score increased only slightly from 95.2% to 95.8%. On average, institutions saw progress on all four critical issues except for "Documents Missing Headings," which increased .5 percentage points from 20.4% to 20.9%. **"Images Missing Description" saw the largest decrease in affected files, dropping 13.6 points from 92.6% to 79.0%.** Progress on this issue appears consistent with Instructor Feedback engagement data (page 4), as Missing Image Description was also the most frequently addressed issue through the Ally feedback.

Engagement with Alternative Formats

Since the start of 2020, universities in ANZ downloaded **over 320,000 Alt Formats, an 825% increase** from the prior year. 39% of downloads were from PDFs, not surprising given that of the three major file types that can be downloaded as an Alternative Format (PDF, Word Docs, Presentations), PDFs represented 65% of the total files. More surprising, 32% of downloads were from Presentations despite representing only 13% of the total files. **The ability to download Alternative Formats from HTML-WYSIWYG content authored in the LMS became available August 17th. It quickly overtook PDFs as the content type most downloaded as an Alternative Format, representing 29% of all downloads in the first week of its release.**

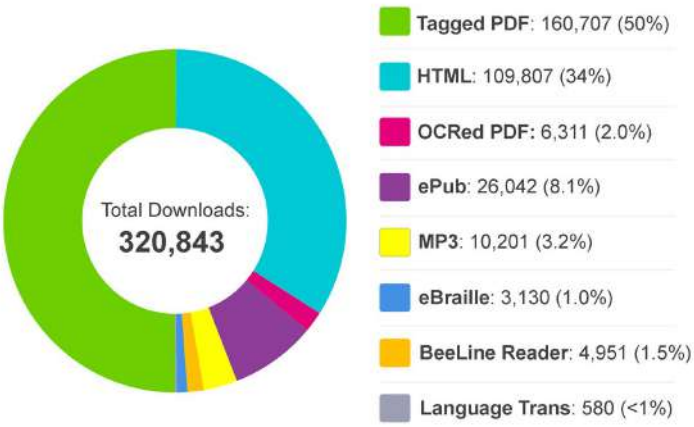
Alternative Formats downloaded from HTML-WYSIWYG are also impacting the breakdown of formats downloaded. In the first week of the feature's release, 24.0% of formats downloaded were ePUB compared to 8.1% in all of 2020. Format popularity in ANZ is similar to the breakdown in the U.S with the exception of the OCRed PDF, which was the third most downloaded in the U.S. compared to the fifth most in ANZ. This may be the result of a lower percentage of Scanned PDFs in ANZ compared to the U.S.

During the semester (Feb. 24th, 2020 through June 5th), **institutions with Alternative Formats available in courses saw a mean average of 1.05 downloads per EFTSL**. This download rate was comparable to Fall 2019 semester downloads in the U.S. (1.03) and the U.K (1.08).

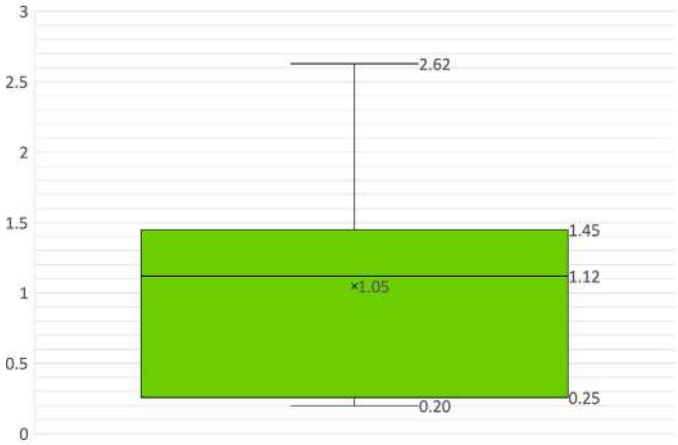
The conversion rate between clicking the Alternative Formats icon and downloading a format in 2020 was **44.1%**. The decrease in unique student downloaders after the start of the semester is consistent with findings in other geographies, and likely reflects a general drop in overall student engagement with the LMS. Students downloaded an average of 2.6 formats per week, **reaching a high of 3.2 between the last week of May 25th and June 22nd**. Considering these weeks coincide with exam periods for many ANZ universities, the uptick in downloads per student is encouraging evidence that students find the formats useful for preparing for exams.

Breakdown of Types of Alternative Formats Downloaded

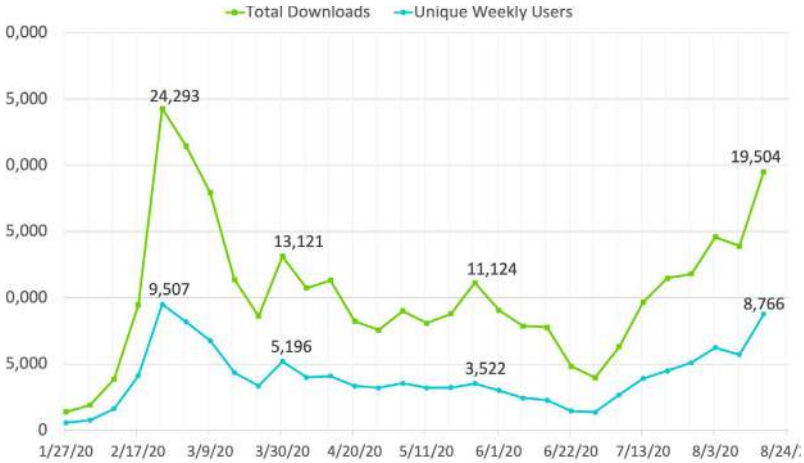
*Language Translation were available in a limited number of courses



Alt Format Downloads per EFTSL: 7 Universities with Ally Active in 70%+ of Courses



Alt Format Engagement across all Unis since Jan 2020



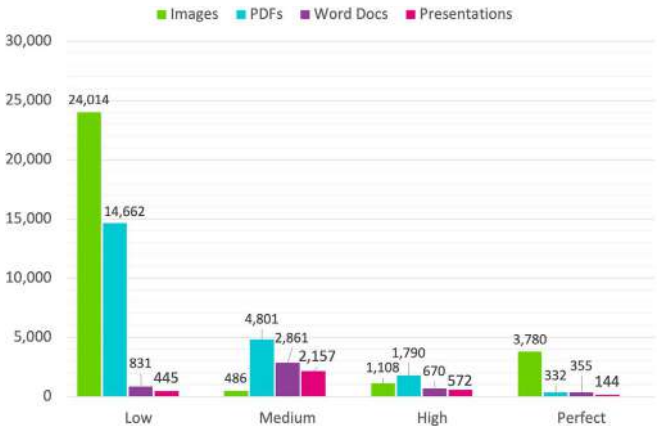
Engagement with Instructor Feedback

Since the start of 2020, there have been a total of 60,345 clicks on the accessibility indicators leading to accessibility improvements made to **24,151 files through Ally's Instructor Feedback, a 396% increase over the prior year.** 66% of all indicator clicks were low-score "red" indicators and 17% of all indicator clicks were either high-score "light green" or perfect score "dark green" indicators. **97% of low score indicator clicks were either images or PDFs**. Based on the critical issues outlined on page two, more than three-quarters of all images would be expected to have a low-score indicator due to missing a description, and more than half of PDFs would also be expected to have a low-score indicator due to either being scanned or untagged. A higher percentage of low-score indicator clicks may either be the result of instructors encountering more red indicators in their courses or instructors prioritizing files with the most severe accessibility issues. Consistent with findings in the U.S., Word Docs and Presentations with medium-score indicators were engaged most frequently, likely because on average those file types have an accessibility score that falls in the medium range.

Across all files types in 2020, the conversion rate between clicking an accessibility indicator and altering a file through the Instructor Feedback was **45.4%**, and the success rate of files altered through the feedback that resulted in an improved accessibility score was **87.9%.** As the bar graph illustrates, there were substantial differences between conversion and success rates across different file types. 84.4% of files improved were images, and images also had the highest conversion rate (77.4%) and success rate (89.6%). Word Docs had the lowest success rate (52.6%) and Presentations had the lowest conversion rate (5.6%). **Despite having some of the most challenging accessibility issues to fix, PDFs had the second-highest conversion rate (19.1%) and success rate (83.6%).**

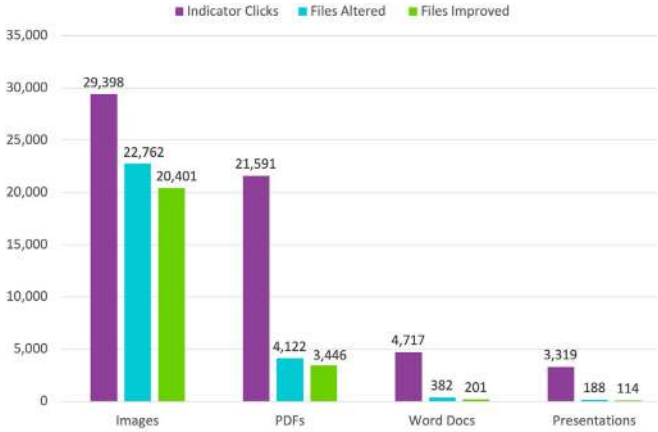
In 2020, **26.2% of all files improved through the Instructor Feedback were initiated through the Course Accessibility Report (6,312 in total)**. Three of the universities in the dataset had more fixes through the CAR than the course context. 94.5% of files improved through the CAR were images, 7.4 percentage points higher than in the course context. On average, for the top-200 courses with the most files improved, **38.1% of the files improved per course were initiated through the CAR, 11.9 points higher than the percentage total for all file improvements.** This appears consistent with findings in the U.S. and U.K where courses with a greater number of fixes also had a higher percentage of files improved through the CAR.

Indicator Clicks per Score Range and File Type



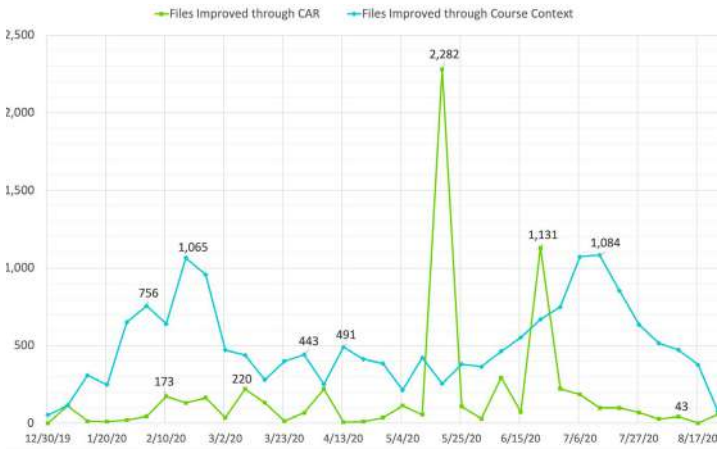
*HTML pages with a "high-score" were clicked 1,090 times

Instructor Feedback Engagement by File Type



**"Files altered and improved" are limited to files uploaded through Ally. Additional fixes may be made directly through the LMS

Comparing CAR Fixes to Course Context Fixes: Weekly



Inclusive Learning Series

Research Insights from the Ally Community

An Impact on Inclusive Education Across the Middle East

This paper explores Ally adoption, accessibility trends, and Ally usage across 29 universities in the Middle East. The analysis is organized across the three core components of Ally:

Institutional Report

The Institutional Report allows administrators to view overall accessibility trends in Learning Management System courses over time and the ability to focus at on specific accessibility issues and files.

Question: What are the current average accessibility scores and percentage of files with critical issues for Middle East universities? How have accessibility issues in the Middle East changed over time and do they compare to accessibility trends in the U.S. and U.K?

Alternative Formats

"Alternative Formats" are generated from the instructor's original and made these available to all students within the LMS. Formats are engineered to work better with assistive technologies, mobile devices and study tools.

Question: What are current trends in Alternative Formats usage in the Middle East and which types of formats are downloaded most frequently?

Instructor Feedback

Accessibility indicators in course context help raise awareness about accessibility issues with course content, while feedback and guidance help instructors correct the issues. The Course Accessibility Report (CAR) provides an overview of common issues and suggestions for getting started.

Question: What are current usage trends and engagement with accessibility indicators, feedback, and CAR by file type and file score in the Middle East?

Ally Adoption in Middle East

29 Universities currently using Ally in the Learning Management System

9,611,334 Files checked for accessibility in 2019-2020 academic year

2,400,366 HTML items checked for accessibility in 19-20 academic year

451,687 Alternative Formats downloaded through Ally in 2020

17,541 Engagements with Ally's Accessibility Feedback in 2020

2,677 Files Improved for Accessibility through Ally in 2020

Institutional Report Data

Accessibility Scores and Issues over Three Years

The "Overall Score" in the line graph above represents the average of all course files (PDFs, Word Docs, Presentations, and Imagesand all WYSIWYG items (HTML authored using the LMS Rich Content Editor). The "Files Score" represents only the average of files and the "WYSIWYG Score" only the average of WYSIWYG items. The WYSIWYG Score tends to be considerably higher than the Files Score because HTML is generally more accessible compared to issues that affect files. While the WYSIWYG Score increased by 3.7 points over three years, the Files Score decreased by 1.1 points. The Overall Score decreased more drastically over the three years (8.3 points) due to an increase in file content added to 2020-20201 courses compared to WSIYWYG content. Since the file content scores considerably lower, this brought down the overall average. **Encouraging instructors to create more WYSIWYG content in the LMS in place of PowerPoint and Word documents can help ensure better accessibility and create a smoother student experience.**

Comparing Accessibility in M.E. to U.S. and U.K.: 2019-20

Overall Scores and Issues	M.E.	U.S.	U.K.
Files Score	**34.0%**	**42.7%**	**46.4%**
WYSIWYG Score	**95.6%**	**97.8%**	**96.7%**
% of Scanned PDFs	**10.2%**	**15%**	**12%**
% of Untagged PDFs	**31.9%**	**49%**	**43%**
% of Docs Missing Headings	**29.1%**	**24%**	**23%**
% Images Missing Description	**98.8%**	**83%**	**79%**

The line second line graph illustrates the percentage of files affected by a critical accessibility issue over three years. The percentage of PDFs identified by Ally as "scanned" decreased 1.5 points, an encouraging sign given that scanned PDFs are one of the most severe accessibility and usability issues for students. Conversely, documents missing headings and documents with contrast issues increased over the three years while image missing description remained close to 100%. Such a high number of images missing description is not surprising given many of the institutions have only recently adopted Ally, and this has been an area where institutions have seen the most rapid progress using Ally in other regions.

Compared to previous Ally analysis of accessibility in the U.S. and U.K., the Middle East has a lower overall files score. The higher percentage of images missing a description and documents missing headings likely contribute to the difference. An encouraging sign for accessibility in the Middle East, there are a lower percentage of scanned PDFs and untagged PDFs in courses compared to the U.S. and U.K. Scanned and untagged PDFs tend to be more challenging and more time-consuming issues to address. **For institutions in the Middle East, using data available in Ally's Institutional Report data to target instructor training around document headings and image description can lead to rapid progress on their accessibility goals.**

Alternative Formats Usage

Close to 99% of all Alternative Format downloads in the Middle East occurred between September and December. **During those four months, an average of 30,059 students per month downloaded at least one format.** During that time, students downloaded an average of 2.8 formats per week, and reached an average of 3.4 during the last five weeks of 2020. Those students in the 90th percentile of downloads exceeded 6.3 downloads per week. **The steady increase in formats downloaded per user during this time suggests as students discover the formats and understand their purpose, they increasingly use them as part of their learning.**

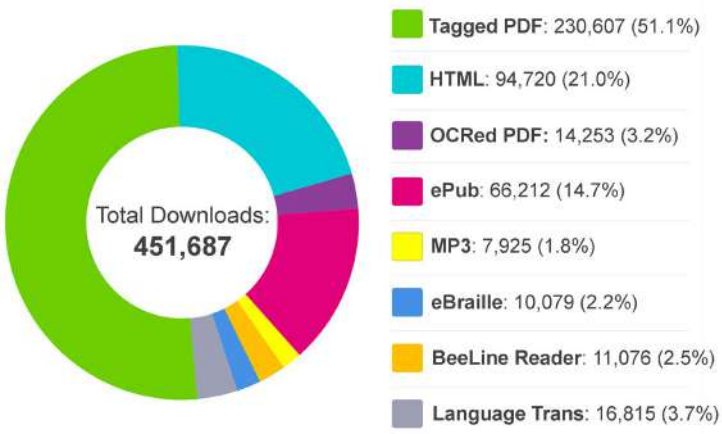
The breakdown of types of formats downloaded in the Middle East is similar to other regions. Tagged PDFs downloaded from Word docs and presentations are the most popular format followed by HTML formats downloaded from PDFs. Both the Tagged PDF and HTML provide improved readability on mobile devices, which may contribute to their popularity. The percentage of electronic braille formats and language translation formats downloaded in the Middle East exceeds other regions. **The variety of formats downloaded across the region suggest that students are finding broad applications of the formats to enhance their engagement with course content.**

Instructor Feedback Usage

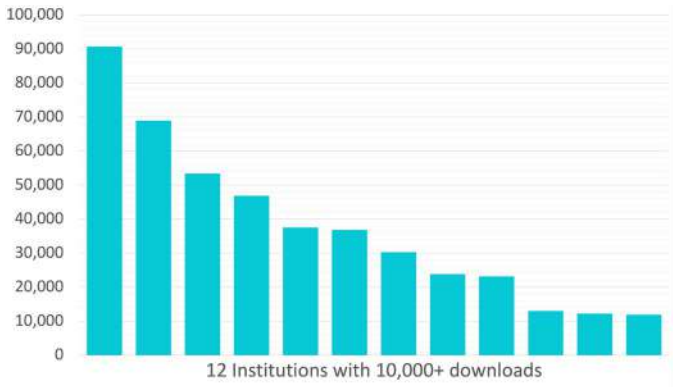
51% of all Ally indicator clicks by instructors were low score "red" indicators, suggesting instructors prioritize files with more severe accessibility issues. The conversation rate between an instructor selecting an Ally accessibility indicator and attempting to alter the file through Ally's Instructor Feedback panel was 19.3% in 2020. Consistent with other regions, Images were the file type most often addressed through Ally's Instructor Feedback - 62% of all files altered, which is encouraging given the large percentage of images missing description identified in the previous graphs. Images were followed by PDFs (23%), Docs (8%), and Presentations (7.0%). **79% of files altered through the Instructor Feedback resulted in an improved accessibility score.**

Instructors also launched the Course Accessibility Report over 7,500 times. While 51% of files were altered for accessibility through the course context, 46% of files were altered either directly through the Institutional Report or through the Course Accessibility Report.

Breakdown of Types of Alternative Formats Downloaded



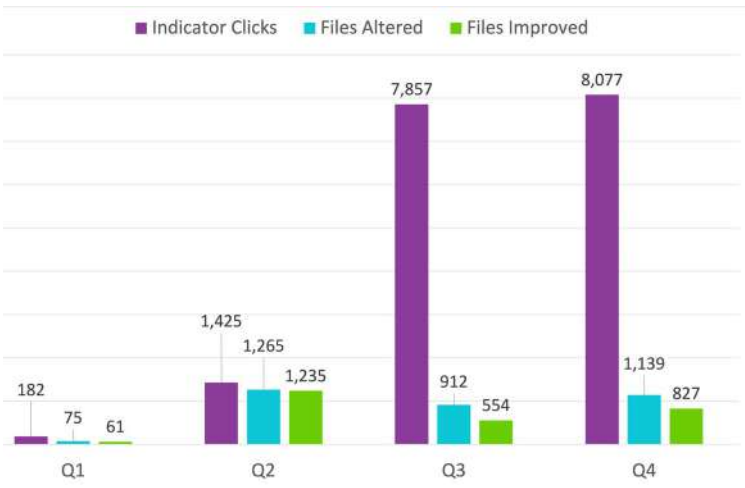
Total Alternative Format Downloads per Institution



We started a campaign here called "Content for All," targeting all students with different needs. Our goal is to provide access to content for different departments and needs. Blackboard Ally helped us reach all students to ensure total accessibility for all."

- Dr. Talal Alasmar, Director of eLearning and Distance Education at University of Jeddah

Engagement with Instructor Feedback by Quarter in 2020



The Book of

Inclusive Pedagogy: Best Practices for Teaching and Learning

Blackboard

Blackboard

Inclusive Teaching Series
Equity and Access

Three Ways to Stay Connected When Learning Remote

Strategies for Inclusive Teaching Online

You've just made a heroic effort to rapidly transition your course to online delivery in response to a campus closure. It's important now to take a moment to consider how your students are adapting, and the equity and access issues resulting from this change in delivery.

For students learning remotely at home, these challenges may include limited access to computers, high-speed internet, campus support services, and a lack of social connection with peers and instructors.

While you may not be able to solve every barrier to access, incorporating a few simple techniques into your teaching can help provide a more inclusive learning experience for all.

Upload course materials in multiple formats

It's hard to predict what kinds of devices and applications students will—or won't—have access to at home. To help ensure students can access your digital course materials:

Include a transcript, PowerPoint slides, and other materials referenced in your lecture recordings so that students with bandwidth challenges can still review your materials if they can't stream your video. If you're not recording from a transcript, a storyboard outline with key talking points and takeaways can also help.

Share both the original Word or PowerPoint file and a PDF export of your course materials. The original file formats tend to be better for accessibility and are easier for disability teams to remediate if needed. The PDF will be a smaller file size for students with limited bandwidth and can be accessed on devices that don't have MS Office.

Use a free OCR (Optical Character Recognition) tool to convert scanned PDFs into searchable electronic documents that will work better with screen readers, assistive technologies, and study tools.

As you're creating new content, use built-in accessibility checkers in your authoring tools to help you address barriers for students who use assistive technologies. You'll find a focus on accessibility will produce more readable, usable content for all students.

Pro Tip: You can use the Ally File Transformer at ally.ac/covid19 to convert digital files into alternative formats that work better with assistive technologies, mobile devices, and study tools.

The three strategies outlined here draw from Universal Design for Learning principles, which emphasize:

- Providing learning materials in multiple formats and modalities that meet diverse learner needs and preferences
- Providing opportunities for students to engage in reflective practice, make relevant connections to learning objectives, and collaborate with peers
- Providing students with options for how they demonstrate their understanding of course objectives

Provide multiple opportunities for participation

Establishing a sense of community and feeling of belonging is vital to an inclusive learning environment, especially when learning at a distance. While video conferences can be an effective way to generate social presence, consider that bandwidth issues and obligations at home may preclude some students from participating.

To help increase collaboration and keep students engaged during video conferences, take advantage of multiple communication tools such as:

Encourage students to use the chat feature during video conferences and have students take turns moderating the chat. Assigning students rotating roles during synchronous sessions will help them stay engaged and inspire more peer sharing.

Create a cloud-based document like a Google Doc that be accessed asynchronously to facilitate collective note-taking, question asking, and resource sharing for students unable to attend the video conference.

Use the "Break out Rooms" feature in your video conference tool. Divide your students into small groups to discuss portions of the reading and reconvene to share what they've learned with the larger group.

Embed specific, open-ended questions into your lectures, in lieu of yes/no or general questions. Questions should aim to prompt dialogue and debate. Online polling tools can also be useful for generating interaction and boosting engagement.

Diversify your assessments with "micro-assignments"

High-stakes final exams and papers can be stressful for students, especially during a crisis. Help students mitigate their stress and feel more prepared by increasing opportunities for low stakes "micro- assignments." These short, focused assignment can help you gauge their understanding and inform your instructional support.

Strategies for designing effective micro-assignments include:

Assign and review micro-assignments before scheduled video conferences so that you can refocus the session to address specific student questions and areas of confusion.

Consider instituting peer review to broaden perspectives and encourage peer-to-peer teaching.

Crowdsource student discoveries and learning using discussion threads and forums so that you can focus on wider areas of confusion for greater impact.

Move beyond text-based assignments and allow students to create multimedia responses (such as short videos or podcasts) to demonstrate their understanding of a topic. Encourage students to include captions or transcripts of work so that their creations are accessible to peers.

Design micro-assignments that connect to students' home culture, interests, and background knowledge with course topics to assess higher-order thinking skills while opening opportunities for you and your students to learn about each other.

Teaching with empathy and reflective practice

As you embark on your journey to designing more inclusive education experiences for your students, remember to acknowledge that everyone is working through uncertain and trying times.

Empathy is central to inclusive design and can be accessed through reflective practice. Establish clear channels of communication and have check-ins with students during synchronous sessions to invite them to share their experiences learning at home. Create a dedicated discussion thread or journaling activity for students to reflect and connect with each other, as well as share tips on digital tools they can use to support their learning.

While there is no single pathway during this unprecedented time, by adopting an inclusive mindset informed by empathy and reflection, you can help your students find their own way to learning success.

This post originally appeared on the eCampus News and eSchool News website authored by John M. Scott in April 2020:

https://tinyurl.com/InclusiveCourseDesign

Blackboard

Inclusive Teaching Series
Equity and Access

Fostering Inclusion and Belonging for First-Generation Learners

Instructional Strategies for Student Success

For first-generation college and university students, higher education offers a gateway to career advancement, social capital, and intergenerational mobility. But being the first of anything is never easy. First generation students face numerous challenges to successfully completing a degree.

Understanding those challenges can help inform course design strategies that foster a greater sense of inclusion and belonging to help all students find academic success.

Challenge: Limited Financial Resources

Tuition costs aren't the only financial challenge faced by first-generation students. Text book costs, access to computers, and access to high-speed Internet can all impact a student's ability to effectively participate in your course.

Strategy: Use Open Educational Resources

Open Educational Resources (OERs) can help reduce text book costs for students by replacing paid content with free alternatives. For OERs with a Creative Commons license, create assignments that encourage students to remix course content to help them master the material as well as develop additional learning resources to support peer-to-peer learning.

Strategy: Make it Mobile Friendly and Low-Bandwidth

Students may have limited access to computers, especially when learning at home. Create web-based content using authoring tools in your Learning Management System instead of relying just on docs and PDFs to improve reading experiences on small screens.

Remember that video conferences and watching recorded videos can be bandwidth intensive. Provide students alternative means for participation and engagement such as collaborative asynchronous activities, transcripts of videos and meeting recordings, and access to lecture slides and notes.

Challenge: Struggles with Impostor Syndrome

First-generation students are more likely to experience greater feelings of self-doubt, lack confidence, or feel they don't have the skills of their peers to be successful.

Strategy: Use Low-Stakes Formative Assessments

Students who lack self-confidence may struggle with the pressure of high-stakes exams. Help ease their anxiety with formative assessments that gauge their understanding, build confidence, and inform targeted instructional interventions.

Strategy: Assign Rotating Roles for Group Work

Students may feel intimidated or insecure when interacting with peers during group work. Assign rotating roles to clearly define responsibilities and empower students to showcase their abilities to their peers.

eCampus News

Watch the webinar **"Supporting First-Generation Students through Inclusive Course Design"** with Dr. John Scott: https://tinyurl.com/AllyFirstGenStudents

Hosted by eCampus News: Oct. 2020

Challenge: Lack of Belonging

First-generation students are more likely to come from cultural, ethnic, and linguistic backgrounds that have been historically under-represented or marginalized in certain academic fields and disciplines.

Strategy: Forge Connections between Content and Experience

Lightweight "micro" activities that ask students to make a connection between their personal experiences or home culture and the course curriculum can help students feel that their identity and perspective are a valued part of the classroom discourse. Those connections can also reinforce learning by creating meaningful associations in the brain.

Strategy: Diversify Representation in your Curriculum

Apply a critical eye to the voices or perspectives represented in your curriculum, and find opportunities to bring in experts in the field from diverse and non-dominant cultural backgrounds. A curriculum that includes under-represented voices can help students identify people like them and foster a sense of belonging.

Challenge: Digital Literacy and Study Skills

First-generation students may have more limited experience using digital tools for learning, speak a different language at home, or have undiagnosed learning disabilities.

Strategy: Encourage Text-to-Speech and Annotation Tools

For second language learners and students with processing challenges, free text-to-speech tools allow students to listen to text aloud while reading, which can benefit comprehension and retention. Free annotation tools help students take notes, while collaborative annotation tools help peers share notes and insights to improve review practices for exams.

Strategy: Assign a Reflective Journal Reflective

Reflective practice can help students develop metacognitive awareness to improve their study habits. Encourage students to keep a journal that details their experiences in the course, their approaches or strategies to mastering difficult concepts, and their lingering questions. A journal can help students discover the ways they learn best, and help them be more successful both in your course and as lifelong learners.

Most Important: Practice Empathy

Uncertain times present unpredictable challenges, and first-generation students are especially vulnerable during crises.

Foster a classroom culture of trust by establishing open lines of communication and spaces for dialogue to help all your students feel that they belong to a supportive learning community that cares about their success.

How does Blackboard Ally Support the Needs of First-Generation Learners?

Alternative Formats

Students can choose formats that meet their diverse needs and devices. Alternative Formats are for course files and content are made available automatically so that learners can choose formats that work best for them, regardless of need of ability.

Instructor Feedback

Detailed guidance and tutorials help instructors address accessibility issues with content that create equity and access barriers for students. More accessible digital course content means higher quality Alternative Formats to support student learning.

Institutional Report

Real-time reporting about barriers to access and equity with digital course content across the Learning Management System help institutions be more responsive to changing student needs and course delivery models. Data helps drive an inclusive education strategy.

Challenges to Academic Success

First generation university students face significant barriers to academic success, such as:

- Inconsistent access to computers and high-speed Internet makes them more reliant on mobile devices and low-bandwidth file formats
- Undiagnosed learning disabilities such as dyslexia and Attention Deficit Disorder impact reading comprehension without the support of disability-related accommodations
- Courses may be offered in a language or dialect different than what is spoken in the home
- Family and work obligations impact opportunities for studying and increase the need for more flexible options for engagement

Enhancing Digital Content for Access and Learning

Ally allows students to convert digital files uploaded by their instructor into eight unique Alternative Formats designed to work better on mobile devices and study tools. **In 2020, students downloaded over 16 million formats through Ally.** During the transition to emergency remote instruction, students without access to campus resources learning at home increasingly relied on the Alternative Formats for mobile-friendly content, flexible options for engagement, and formats designed to improve reading speed and focus. To learn more about how students have been using the Alternative Formats, check out the white paper: "Choose your Format."

How can Alternative Formats support the learning needs of first-generation students?

	Students who rely on mobile devices can covert their PDFs to the **HTML format** that's responsive to small screens for easier, faster reading.
PDF	Students who need to access files on devices without MS Office or who need a smaller file size because of bandwidth issues can download PowerPoint and Word docs as **Tagged PDFs**.
B	Students with reading focus challenges like dyslexia or who just to read faster can download their files in the **BeeLine Reader format**.
	Non-native speakers can download the **Language Translation format** when struggling with the meaning of their text to aid their comprehension.
	Students can take advantage of the reading comprehension and study tools available in free eReaders for tablets and mobile by downloading their file as an **ePub format.**
ABC	Students can improve the quality and readability of scanned PDFs by downloading the **OCRed PDF format** for a searchable document that works better with screen readers.
	Students with processing challenges and non-native speakers who benefit from "bimodal presentation" can download the **Audio MP3 format** to read and listen at the same time. With the MP3 format, students can also listen to their texts on-the-go for a more flexible study option.

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Inclusive Teaching Series
Equity and Access

Inspiring Connections for Relevance and Belonging in Online Learning

Author: Dr. John M. Scott is a Product Manager for Blackboard Ally. Prior to joining the Blackboard Ally team, John completed his PhD in Learning Sciences and New Media at the University of California Berkeley, where he designed, taught, and researched online learning courses focused on collaborative learning and multimodal literacies. He holds a Master's Degree in Special Education, and spent 4 years as a public school teacher working with at-risk youth in New York City.

The Importance of Belonging to Learning

Following a lineage of scholarship often traced back to Maslow's "hierarchy of needs" theory, educational researchers and practitioners have long emphasized the importance of "belonging" to the student learning experience. An increased feeling of "belonging" and "community" have been demonstrated to improve student satisfaction, motivation, and achievement (cf Pilcher, 2016). Especially as learning has increasingly (and abruptly) migrated online, a learning environment designed with inclusion and community in mind can help students of diverse backgrounds feel a sense of belonging.

So what kinds of course design strategies and tools can instructors use to generate a sense of belonging and foster inclusion in remote learning environments?

Below I outline one inclusive learning strategy I employed in the design of an undergraduate online education course I taught at the University of California, Berkeley.

Making Relevant Connections

In her seminal work on "Culturally Relevant Pedagogy," Gloria Ladson-Billings observes "Culturally relevant teachers utilize students' culture as a vehicle for learning" (p 161).

Whether through their interests, cultural backgrounds, or lived experiences, providing opportunities for students to make meaningful connections between their life and your course content can positively impact several aspects of a student's learning experience. Relevant connections can help you develop a rapport with your students, facilitate peer-to-peer dialogue, motivate engagement, and even strengthen students' understanding of the material.

Making relevant connections to course content helps students feel that their voice, perspective, and experience are an acknowledged and important part of their learning, helping foster a sense of belonging and inclusion.

To help students make relevant connections, I introduced "Inspire" activities into my weekly modules. At the start of each week, before diving into the instructional content, students were prompted to share a digital artifact or an experience with the class that represented or connected to the key theme or topic for the week. As an example, for a module that focused on "literacy tools," students were first asked to share an image or video from the web of an impactful literacy tool from their childhood. After adding the artifact to a class discussion thread and explaining why they chose that particular artifact, they were also prompted to comment

on one similar and one different artifact shared by their peers. Later in the weekly module, after they engaged course readings and videos about different literacy tools and definitions of literacy, students were prompted to revisit their "Inspire" activity post. Based on new understandings gleaned from the instructional materials, students expanded on their initial post to include direct references to the readings and videos to demonstrate that they grasped the content.

As an instructor in an online course, "Inspire" activities allow me to learn about my students through the prior-knowledge and perspectives they bring with them into my course, as well as help students engage and learn from each other when viewing their peers' posts. From a cognitive perspective, the connections students made between their concrete experiences and the abstract concepts engaged in the course readings helped reinforce learning by establishing stronger associations in the brain.

I've also used Inspire activities to help students develop a higher-order understanding of concepts by asking them to make a personal connection to a topic or terminology they encountered in a previous module. By applying what they've learned to real-world experiences in their life or community, students begin to demonstrate mastery of that particular topic. This is especially useful when concepts across course modules build on each other, as I can use their Inspire artifacts as

a mode of formative assessment, and address areas of confusion or uncertainty as I introduce them to a new, more complex topic.

Inspire activities or other kinds of "micro-assignments" don't need to be overly complex or time-consuming to be impactful. More importantly, when designing these kinds of activities, instructors should be specific in asking students to explain the meaning of the artifacts or experiences they share. Avoid just the general "explain why you chose that image" prompt and instead be pointed in the kinds of explanations or connections you ask students to make. When done effectively, Inspire activities offer a lightweight and creative way to introduce students to new concepts, reinforce understandings about previous concepts, and provide ongoing feedback to instructors while also fostering a sense of belonging and community.

Over time, the artifacts and reflections created by students during the weekly Inspire activities form a tapestry that weaves together their personal identities and the course content. Collectively, the shared artifacts of the class become the digital embodiment of the cultural worlds and dialogue of the learning community.

Regardless of the subject area that you teach, designing activities that prompt students to make relevant connections between their lives and course concepts can have both socio-emotional and cognitive benefits on the learning experience. As you begin to integrate such activities into your course, keep in mind that effective design is an iterative process, and you will want to continue to modify and refine your activities over time based on student work and feedback. Most importantly, empower your students to take ownership of the assignments and expand on them in ways that fit their own needs and interests so that they can also contribute to one another's sense of belonging.

This post originally appeared on the Blackboard blog in Sep. 2020

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How to Promote Inclusion and Belonging through Team-Based Learning

Dr. Tendai Charles is an Assistant Professor of Education, Director of the Centre for Research in Digital Education at the British University in Dubai. He worked as an I.T. Specialist in London before changing careers by becoming a teacher of English for Academic Purposes, and then teaching at Russell Group Universities such as Edinburgh University, Nottingham University, and Newcastle University. He then became Coordinator of the Instructional Design Unit at UAE University, and now uses his knowledge and experience to conduct academic research on topics pertaining to Digital Education.

A Conversation with Dr. Charles on Inclusion

Inclusive pedagogy emphasizes community as a conduit to belonging, but fostering a feeling of community in distance learning contexts can be a challenge. How do you approach the challenge of creating community in your online courses?

To foster a sense of belonging when learning at a distance, it is critical to structure opportunities both for me to build rapport with my students and for my students to build rapport with each other. In a face-to-face classroom, social interactions occur organically in conversations before and after class and during breaks. These kinds of informal interactions, however, are largely absent in online courses.

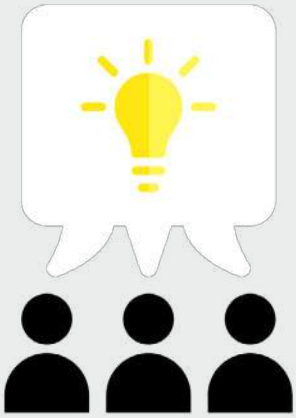
A lack of dialogue among students may be compounded by the faculty's tendency to lecture when teaching online, and community cannot thrive in monologue. To generate dialogue through collaboration, I've implemented "team-based learning" (TBL) in my courses. On the first day of the course, students are placed in groups of four and exchange contact information. I take advantage of the "groups" function in Blackboard Learn with the Ultra experience to provide spaces within the course to collaborate with their group members for the term's duration.

TBL's underlying principles are that assignments should promote both learning and team development, and students should receive frequent and immediate feedback. How do you organize your course activities and assessments in accordance with these principles?

Each week, I provide students with a different team-based activity, which can be conducted either synchronously or asynchronously, depending on the assignment. For example, in one of my courses, groups must create a video exploring a learning theory and present it to the class. Each team has access to their own Blackboard Collaborate room for synchronous discussion of their topic and planning of their video, as well as a shared Google document for asynchronous note-taking and task delegation. Each group member records their segment individually, and then each piece is edited together into a single video that is uploaded and shared with the rest of the class.

Because both Blackboard Collaborate and Google Docs allow me to view a record of the interactions, I am able to authentically assess the process and provide formative feedback to the group. **This allows me to ensure everyone in the group participates and that group dynamics are inclusive of all members. It also gives me an opportunity to learn about my individual students and deepen my rapport with them.**

Four Essential Principles of Team-Based Learning



Groups should be intentionally formed and managed to ensure more equitable participation

Students should be accountable for individual contributions and contributions to the group

Group assignments should promote both content learning and the development of teamwork skills

Students should receive timely feedback throughout the process and on final submissions

At the same time, some forms of participation and collaboration may not be totally visible to me in the Blackboard Collaborate recording and the revision history of the Google Doc.

Designing for interdependence in group work implies that the final product cannot be completed without each member's direct contribution.

While I do not assign grades to group work, I can assess the final video submission both in how well the video explains the concept from my perspective as the instructor of the course and how effectively the video teaches the concept to other students in the class. This opportunity for peer-to-peer learning expands the connections of the class community from individuals within the group to individuals across groups.

The group video activity is also reminiscent of classroom "jigsaw" activities, where groups are assigned a part of a lesson and then asked to teach their section to other class members. Like with TBL, "jigsaw" activities have also been demonstrated to foster a sense of belonging because each member of the group plays an essential role not just within the group, but in the overall learning and advancement of the community. Can you think of any examples from your teaching where sharing new perspectives contributed to new understandings between peers?

Interactions with diverse group members can serve to challenge stereotypes and uncover hidden biases. Recently, one of my male students admitted to me that he had held the belief that women were better teachers than men, but were inferior leaders to men. However, his interactions with his group and the contributions of one particular woman in his group revealed to him that women were more than capable of being equally effective leaders.

These are the kinds of hidden or unexpected learning opportunities that emerge through the guided social interactions of TBL, and they serve as powerful moments for bringing a community together through a shared sense of belonging and understanding.

This post originally appeared on the Blackboard Blog in Oct. 2020

Thanks to professors like Dr. Charles, the British University in Dubai has emerged as a leader in accessibility and inclusive education in the Middle East, having been an early adopter of Blackboard Ally, as well as the Middle East regional winner of the inaugural 2020 Blackboard Fix Your Content Day challenge.

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Inclusive Teaching Series
Equity and Access

Breaking for Belonging: Inclusion through Critical Empowerment

Dr. Sean Turner has been teaching high school, undergraduate, and graduate students in New York City for over 20 years. He currently teaches at a transfer high school for over-age, under-credited students. He also teaches graduate level education courses at Hunter College, Mercy College, and Long Island University. He has a background in Special Education and Literacy instruction as well as experience in theater and the performing arts. His teaching philosophy emphasizes the importance of community and self-expression in crafting authentic and creative learning experiences.

A Conversation with Dr. Turner on Inclusion

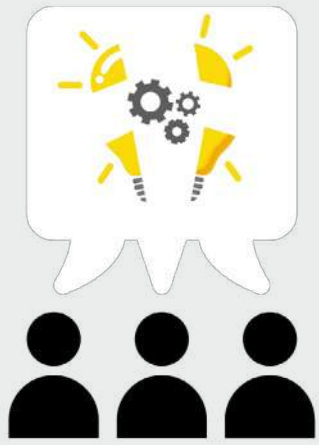
You've taught in a lot of different educational contexts across age groups and with varying kinds of needs. Are there any guiding pedagogical principles related to inclusion and belonging that inform your teaching across these unique contexts?

I think as a teacher, you always need to adjust your practice based on each learning context. Each class is its own unique community, and that community emerges and evolves in different, even unexpected ways. Part of fostering a sense of belonging as an instructor is being mindful of the dynamic nature of a learning community – the unique personalities of students, how those personalities intermingle and form relationships, and unexpected events that happen in the classroom or outside the classroom. We sometimes talk about the art of teaching, and I think this artfulness appears in the spontaneous adaptivity required to be responsive to the changing needs of individual students and the learning community as a whole.

At the same time, there are several key principles that underpin my teaching philosophy, which I apply in my practice regardless of the age of my students or the course delivery model. The work of Brazilian educational theorist Paolo Freire has been fundamental to my teaching practice and specifically, how I think about an inclusive learning community. Freire emphasizes the importance of a "problem-posing" model of education, which challenges the idea that the instructor should be the 'center' of the community and the sole source of knowledge. Instead, the problem-posing model focuses on the knowledge students bring with them into the classroom, and encourages them to use this knowledge to identify and solve relevant problems in their world. As the instructor, my role is to facilitate dialogue among students to effectively leverage and build upon their collective knowledge. I also have to ensure that this peer dialogue is equitable and empowers all voices in the learning community. It's in this community dialogue directed to solve relevant challenges that students discover and affirm their sense of belonging.

The connection between Freire's critical pedagogy and inclusive education is an interesting one, especially in relation to the idea of student agency. Certainly, empowering students is central to Freire's work, but inclusive teaching is about more than just providing students access- it's also about empowering them to be actors within the learning community. What kinds of strategies do you use to design inclusive experiences that serve to empower your students?

Organizing a Group Project Focused on “Critical Breaking”



1. Students identify a current problem or challenge in the field
2. Individuals share a variety of multimedia artifacts representing the problem
3. Through collaborative analysis and dialectical critique, students discuss the collection of artifacts, reflect on different interpretations of the problem and unconscious bias in the materials selected to represent the problem
4. Student synthesize a “plurality” of diverse voices and implications for their critical discoveries on their teaching

I believe we can empower students by encouraging them to break things! By breaking, I mean, critically analyzing different types of media, deconstructing their representations of people and the world, and who are excluded from those representations. In my online teacher education course, through "Guided Inquiry," I curate different media artifacts- videos, texts, web pages- related to a particular course theme or topic, and then have students work through those materials in groups.

I provide several "Essential Questions" to help guide their activity through the materials, and encourage groups to develop their own critical questions as they engage in dialogue about the materials. I then offer several options for a group final product. In one of my classes, groups created a media exhibit of a culturally-relevant curriculum using PADLET, where they curated media artifacts, made connections between artifacts, and offered analysis. After sharing and discussing their group projects in a synchronous video conference with the rest of the class, students wrote an individual reflection about the experience, the media they created, and how they could use the curriculum projects with their own students. Projects are part of their evolving teacher portfolios so they represent a living archive of resources they can use in their teaching practice.

Your emphasis on different types of media, both in the instructional content you provide students and the project they create, as well as how you offer them choices, also echo key principles of Universal Design for Learning (UDL).

Is UDL another framework you draw from in your teaching practice?

Absolutely. I think many of these pedagogical frameworks have similar points of emphasis and overlap, especially those concerned with equity, access, inclusion, and social justice. For me, UDL helps me think across the different parts of the learning experience, from how I represent learning content for my students, to the ways my students interact with each other, to how they demonstrate their understanding of the material. Across those multiple layers of representation, expression, and engagement, students can find their voice and carve out their space in the learning community.

This post originally appeared on the Blackboard blog in Dec. 2020

It’s my role as an instructor to guide students to help them discover their space and their voice. And to equip them with the tools and techniques to break things so that they are empowered to remake the world as a more just and more inclusive place for all.

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Inclusive Teaching Series
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Using Blackboard Ally as a Student with Low Vision

This post originally appeared on the **"Veronica with Four Eyes"** blog, authored by Veronica Lewis. Veronica is a student at George Mason University in Virginia studying data science and assistive technology, with a special interest in visual impairment. Outside of writing Veronica With Four Eyes, Veronica loves to play clarinet, travel, watch/participate in anything related to visual and performing arts, and learn new things whenever possible. Veronica's ultimate goal is to take over the world with assistive technology, first by ensuring that every person with a disability is able to access the information and complete activities that they need and want to do, and then by achieving world domination using large print and screen readers.

This semester, I noticed a new tool within my online classes called Blackboard Ally that could transform the way that I access materials as a student with low vision that fluctuates frequently. I've been using Blackboard Ally for about a week and a half now, and while it may not be completely perfect, it has helped me tremendously with saving time so that I can focus on my classwork, and not on dealing with technology. Here is how I am using Blackboard Ally with low vision, and how students can use the tool with their favorite assistive technology.

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What is Blackboard Ally?

Blackboard Ally is a tool for instructors and students that is incorporated into the Blackboard learning management system. With Blackboard Ally, instructors and institutions can get insights on course content accessibility and the use of accessible materials in their classes, which is definitely a valuable resource since accessibility can benefit a wide range of students. However, Blackboard Ally can help students with disabilities or other access needs tremendously by allowing them to download course materials in different accessible formats to use with assistive technology- no converting files with software or waiting for materials to be given in an accessible format.

While the formats may not always be 100% perfectly formatted, they are an invaluable resource for students with print disabilities and visual impairment.

Reading within the Web Browser with HTML

HTML is used to create documents to view on the internet, or documents that can open in a web browser. This is great for using web browser extensions to access content, and it's simple to zoom in on a page or cast to a larger screen. I typically access HTML documents with large print or have the text displayed in a simplified view using an extension such as Pocket or Microsoft Immersive Reader. This is also an easy view for me to use on my iPad or Android phone and works well with the screen reading tools I have on those devices.

How to Access Blackboard Ally as a Student

1. Go to the document you wish to download in an accessible format. This can be an assignment, digital reading, textbook, or any other file
2. Select the Blackboard Ally icon, which looks like a capital letter A
3. Choose the accessible format you wish to download- you can download the same assignment in multiple formats if needed, i.e PDF and audio
4. Select the Download button
5. Use the file with desired assistive technology or device

Using a Tagged PDF

PDF documents can take many different forms, but their main feature is that they cannot have content edited or altered by default. Tagged PDFs are specifically designed with accessibility in mind, as they are structured so that screen reader users can easily navigate a document, though these documents can be used by anyone who needs a PDF copy of their content. I prefer to import PDF copies of worksheets or assignments into a program like Notability so I can annotate them or add my answers on my iPad, which is much easier for me than writing assignments by hand.

Listening to Assignments with Audio

MP3 files are some of the most common audio formats, and can be played on many different devices. With the audio format on Blackboard Ally, I can have my assignment or reading read out loud by a synthesized voice and either listen to the text or follow along with another format. **One of my friends likes to download MP3 files so they can listen to them later using their tablet or similar portable device, which is helpful for when they need to do reading for a class but don't want to look at a screen.**

Reading Materials in EPUB

EPUB documents are for eBooks that can be read across a variety of apps and devices. They were developed to be used for eReaders so that digital books could keep the same organizational structures such as chapters and page numbers as their physical counterparts. One of my favorite ways to use EPUB files that I download for my classes is to add them to my Nook eReader so that I can read on a display in large print without glare or backlight from a computer. This is especially helpful for documents that contain lots of text, like research papers or scholarly articles.

Accessing Readings with Beeline Reader

Beeline Reader is a tool that adds color gradients to digital text to help students read more easily and focus on lines. Assignments opened in Beeline Reader will open in a new tab in the web browser, and users can choose between different color gradients so that they can scan text more easily without their eyes darting off the page. **There is also a dark mode available, which is great for users who have trouble focusing their eyes at night.**

Using Electronic Braille

Braille Formatted Files, also known as electronic Braille, are digital forms of contracted or uncontracted Braille that can be printed on an embosser or read with a Braille reader or refreshable Braille display. Users can also get accessible books in this format. Since I am not a Braille reader, I have not personally tested this feature, though I have received positive feedback from other users who have worked with it- however, they did note that there were minor formatting issues and that they preferred to get materials from their college assistive technology office whenever possible.

Final Thoughts: Blackboard Ally is a fantastic tool for students who use assistive technology, as well as students who may be wondering if they can benefit from accessing materials in a modified format. I hope that this post on using Blackboard Ally with low vision is helpful for others!

The Book of

Blackboard