National Center on
Accessible Educational Materials

A Southern Story:
Providing Accessible
Educational Materials

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IDEAs
that
Work
Office of Special
Education Programs

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Introduction

In this paper, we report the findings of a case study that explored how one State Education Agency (SEA) and two Local Education Agencies (LEAs) in a southern state enacted federal and state policies to provide Accessible Educational Materials (AEM) to disabled students[1], work that is ongoing in the southern state as of this writing. First, we retell the story of the work occurring across the three participating organizations in this southern state—a story eight participants shared with us in a series of interviews. Second, we report the findings of the case study. Finally, we offer recommendations for K-12 practitioners.

We use pseudonyms throughout this document to protect the identities of the participating organizations and individuals. Herein, the SEA is referred to as State Department of Education and the LEAs are referred to as Gibson School District and Hawthorn Public Schools. The table below lists the participants' pseudonyms, organizational affiliation, and title.

Table 1: Participants

Pseudonym	Organization	Title
Norman	State Department of Education	Program Manager
Aaron	State Department of Education	Director of Technology Development
Sarah	Gibson School District	Executive Director of Special Education
Genevieve	Gibson School District	Assistive Technology Specialist
Michelle	Gibson School District	Assistive Technology Specialist
Nancy	Hawthorn Public Schools	Director of Assistive Technology and Related Services
Libby	Hawthorn Public Schools	Assistive Technology Specialist
Tim	Hawthorn Public Schools	Director of Instructional Technology

For additional details about the methodology employed in this study, see Appendix A.

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[1] Herein we use identity-first language (i.e., disabled person), as many disabled people prefer this language convention. Moreover, the seventh edition of the Publication Manual of the American Psychological Association supports the use of identity-first language in discussions of disability (see Section 5.4).

A Southern Story

The AEM Center

With funding from the Office of Special Education Programs at the U.S. Department of Education, the AEM Center is providing intensive technical assistance to a cohort of seven states (the AEM Cohort), including the southern state in which we conducted this case study. As part of the AEM Cohort, participating SEAs invited LEAs in their state to also receive technical assistance. Since 2020, the AEM Center has assisted the SEAs and LEAs in the Cohort to implement the Quality Indicators with Critical Components for Providing AEM. Two of the three organizations in this case study, State Department of Education and Gibson School District, are part of the AEM Cohort. Though Hawthorn Public Schools is not part of the AEM Cohort, they, too, leverage technical assistance from the AEM Center.

All three organizations have benefited from the AEM Center's technical assistance in different ways. For example, they know an expert at the AEM Center is just an email or phone call away, their enactment processes are scaffolded through the Cohort and the Quality Indicators, and they have access to just-in-time, easy-to-understand online resources on the AEM Center's website.

Norman, from the southern state, explained that the State Department of Education has had a strong relationship with CAST for years, and through that relationship has developed deep knowledge about AEM. When the State Department of Education needs expert guidance about AEM, according to Norman, they "reach out to CAST and the National AEM Center."

According to Michelle, from Gibson School District, participating in the AEM Cohort and using the AEM Pilot, a web-based self-assessment tool for the Quality Indicators, "exploded the discussion of accessible educational materials" at the district. The Cohort and AEM Pilot provided scaffolding that supported the Gibson team in developing, carrying out, and adjusting their plan for providing AEM. Michelle indicated that the self-assessment and goal setting components of the AEM Pilot were particularly helpful. Sarah, another member of the Gibson team, indicated that the sample policy language from other LEAs was a tremendous resource.

The Hawthorn team has made extensive use of the resources available on the AEM Center's website; Libby explained that the AEM Center "has been the biggest resource that our team has looked to." For example, Nancy used the AEM Center's resources in a series of procurement meetings to get buy-in from Hawthorn stakeholders outside of

special education. "I showed them some of the information from the AEM Center. And, we told them that we were going to use the POUR principles—perceivable, operable, understandable, and robust—because the website already has that guidance, and they all understood that."

State Department of Education

The State Department of Education's Special Education Division serves as a cornerstone and connector for the AEM and assistive technology (AT) work occurring in the state. The State Department of Education's Special Education team has decades of experience in special education, AT, and K-12 administration. The team has leveraged that expertise, as well as Southern hospitality, to develop strong relationships with the LEAs in the state.

As Nancy at Hawthorn explained, "They really know us and our work; it's just wonderful." In his role as a program manager, Norman serves as the lead liaison to LEAs around the state. Norman executes his work with LEAs the way a talented host executes a party, ensuring the guests feel welcome and have ample sustenance, engaging conversation, and laughs. When educators at Gibson and Hawthorn reach out to Norman, they know they will receive a swift, warm, and helpful response with a dash of comedic relief to ease their stress. "I feel like I could call Norman and ask him a question, and if he can't answer it, he'll get me the answer. It may take a day or two, but I know he's going to call me back" (Nancy, Hawthorn Public Schools).

During Hawthorn's latest procurement cycle, Libby reached out to Norman. According to Libby,

> "… Our district was looking at purchasing a new learning management system; the one that we currently have is not accessible. So, I approached Norman and said, 'Do you have any recommendations on a learning management system?' And then he met with me, and we dug deep into the POUR framework and how to use that to look at different learning management systems, and a lot of things about accessibility that I didn't quite realize until I met with him. So that helped us to be able to speak with our technology department and ask if we could be a part of the learning management system procurement process."

Study participants explained that their relationship with the Special Education Division at the State Department of Education is much stronger than their relationship with other

teams at the Department of Education. They attribute the strength of the relationship to Norman's extensive and intentional work.

Through its involvement in the AEM Cohort, the State Department of Education has developed an initiative to increase local educators' knowledge about AEM and how AEM can positively impact students. Specifically, the initiative encourages educators at every IEP to stop in the middle of their accommodations or special factors and just briefly discuss AT and AEM, according to Norman,

> "Could it be something that the student would benefit from? Have that minute, two-minute, five-minute discussion… So at least people are slowing down to talk about that piece. And so we've got all these materials, we've got stickers, we've got buttons, we've got guide sheets, calendars, everything. Everybody in the schools, from the janitor up, got a calendar that is in Braille and large print."

Norman explained that although only Gibson and two other LEAs are part of the AEM Cohort, all LEAs in the state are benefiting from the toolkit that has emerged from the work. Norman said,

> "Everything that we've done through the initiative that we have created specifically for our Cohort districts, we're providing it in a toolkit for all districts. So, we look at it as our Cohort districts are getting extensive technical assistance, and everyone else is getting the benefit of the technical assistance that we're growing out of that project."

Gibson School District

As an LEA in the AEM Cohort, Gibson has worked over the last year and a half to implement the State Department of Education's initiative to pause during IEP meetings to consider AEM and AT. Michelle and Genevieve have been piloting the initiative at one high school and one middle school. The pilot includes a general information component for everyone in the school and more in-depth professional learning for key stakeholders.

For the general information component, Michelle explained that Gibson

> "did things as simple as bulletin boards… I was really lucky the high school gave me a bulletin board in the main hallway, so everybody passes by it. We made it really eye-catching… They can scan QR codes to learn

more. The Department of Education came up with some really nice, simple one-pagers on 'What is assistive technology?… How can it help you? What is AEM? Why is AEM important?'"

Additionally, Michelle and Genevieve worked with the educators at the middle and high schools to develop more in-depth knowledge about AT and AEM, because, as Genevieve explained, "A lot of times people are confused about the process of AT, even as far as putting it into the IEP. Where does it go? Do I put it here? Is this enough?" The goal of the professional learning component was for educators to be prepared to engage in a meaningful discussion during the special factors portion of IEP meetings rather than assuming a student doesn't need AT or AEM.

Through the AEM Cohort, Gibson has used the AEM Pilot to scaffold their work around Quality Indicators 1, 2, and 3. "CAST has done a beautiful job organizing the AEM Pilot. We have guiding questions. We have a self-assessment that we go through where we can kind of ask those hard questions and start building goals," Michelle said.

For Quality Indicator 3, Michelle and Sarah have spearheaded Gibson's work to develop guidelines for procurement to ensure the educational materials Gibson purchases in the future are accessible. Sarah described the process Gibson used to compose the first draft of their guidelines.

> "I really used resources. So, I went to the State Department of Education. I looked at our state level procurement information… and then I just used some other stuff from CAST as good examples from other districts who've already gone through the AEM project in previous cohorts…And so, just trying to pull together a variety of resources, and then some comparing it to information or the language that we already have, and just trying to pull it together."

Since procurement is an interdepartmental endeavor, Sarah has used her influence as the Executive Director of Special Education to bring the Curriculum and Instruction Department in as a partner in developing the guidelines. According to Michelle,

> "Sarah, our top level supervisor in the department, is working with the Curriculum Department really delving into looking at what are our guidelines and processes for procurement, what language is in our procurement procedures, as far as making sure that when we look at either a new technology or textbook materials, that we have that in the get-go, kind of that accessible educational materials that's in the forefront

of everyone's thinking. So, I think that's been key through this Cohort. It's started key conversations with people, especially in the Curriculum Department, because they are the ones who are procuring large amounts of resources and making sure that we can get it to be accessible in the beginning and not have to retrofit. So, this Cohort has been huge for us."

Sarah explained that she has used a variety of techniques to engage her Curriculum and Instruction colleagues in the work. "Sometimes it's sharing information. Oftentimes it is, 'Hey, I'm working on this. Here's some draft language for contracts or procurement. What do you think about this? Could we talk about it?'"

Genevieve analogized the work of enacting technology accessibility policy and providing AEM to other large, complex, elephant-shaped projects.

> "I really think everything is going well, because like my mother always says, you have to eat the elephant one bite at a time. One bite at a time, because it's a lot, especially when you're trying to build from things that you may not have had, or things that you may have had, but needs a little tailoring, especially to kind of come up to date with the times… It just takes time to really break everything down, look at it, dissect it. Okay, what do we need to do here?"

Hawthorn Public Schools

Historically, Hawthorn's work around accessible technology and educational materials has been reactive and focused on securing access for individual students. Nancy shared that, over the last year and a half, Hawthorn's focus has expanded to be proactive.

> "So it's been kind of a progression from very narrow accessibility target, very child-specific, very disability-specific, to now, it's very different. We're talking right now with our technology folks about accessibility digitally, accessibility with NIMAC[2], having a universal approach to accessibility."

Parent advocacy was the impetus for Hawthorn's shift from a reactive to proactive approach to AEM work. As Libby stated, "So it really started with a parent that was upset… it opened up a door for us." The parent complaint gave Hawthorn's AT team an

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[2] NIMAC is an acronym for the National Instructional Materials Access Center.

opening to broaden their collaboration with the Technology Services Department. That collaboration eventually resulted in replacing an inaccessible Learning Management System (LMS) with an accessible LMS and developing procurement procedures that incorporate accessibility considerations.

The procurement procedures that Hawthorn developed to procure an accessible LMS can be used in the future to procure curriculums and other educational materials, which have historically posed barriers to disabled students. According to Libby,

> "I think, since we didn't have some of these accessibility clauses in our terms of services, we were running into a lot of issues in the past where especially our reading content was not accessible. And there were students that were either blind, had a physical impairment, but they really couldn't access that curriculum."

After the parent complaint, as Hawthorn began expanding their accessibility work, they reached out to the State Department of Education. According to Norman,

> "… they had contacted me about accessibility, and they were looking at how to fine-tune district-wide how they got their accessible education materials. And they're doing that without the state's support. So, they're going to CAST on their own, and getting the information, and trying to apply it to the districts. I had a very good conversation with the lead [Libby] at Hawthorn."

As the AT Team at Hawthorn gathered information and developed knowledge about how to incorporate accessibility into the LMS procurement process, they also cultivated buy-in from other departments, particularly the Technology Services Department. Getting buy-in from other departments was, according to Libby, the hardest piece of the work. "I think getting all these different departments on board with it [accessibility]... That really has been the hardest thing is just getting everybody on the same page."

A key buy-in strategy the AT Team used was connecting the theoretical impact of inaccessible technology to Hawthorn students who were forced to deal with digital barriers when Hawthorn's technologies were inaccessible. Libby said,

> "… we spoke to the Chief of Technology Services. And we said, 'We'd love for you to come out and meet the student. I think it would help you understand who she is and what she can do, if you could actually come out and meet her.'… So having them come out and meet the students I

just think was huge… I think they [Technology Services] finally see our side. We're getting there."

Everyone at Hawthorn got on the same page just in time for the cross-departmental team to incorporate accessibility into the procurement cycle for their next LMS. The work kicked off with a Request for Information (RFI) process, whereby vendors responded to hundreds of questions Hawthorn posed, including accessibility questions from the Special Education Department. As Tim shared, the RFI process fed into a Request for Proposals (RFP) process, in which accessibility remained a key consideration. According to Tim,

> "Out of that RFI, we identified three learning management systems we felt would meet our needs as a district. And we were able to move into the official RFP process. Since we were only evaluating three learning management systems at that time, we obtained a sandbox site login where our Special Education Department, particularly our accessibility team, could go in and use the platform… And they actually went through tests with our current tools [text-to-speech, screen magnification] that we use to ensure they'd work on the LMS platforms. Often, if we would ask the question to a vendor as a part of the RFP, we always get a 'yes,' but there's not a lot of explanation, or sometimes it can be misleading. Sometimes they'll tell you whatever you want to hear. So, we felt like until we were able to test those things out, that we did not want to take just the vendor's word for that. So, we obtained test logins and our Special Education Department took a look at the three finalists that we were considering and basically were able to say for one of them, 'Absolutely not. This would not even meet our basic needs for accessibility purposes for our students.' So based on that feedback and some other feedback from our teachers, we were able to eliminate one platform very quickly in that process."

Libby and her colleagues in the Special Education Department were thrilled that they were able to use the knowledge they developed about accessibility—particularly the Perceivable, Operable, Understandable, and Robust (POUR) framework from the [Web Content Accessibility Guidelines](#)—and their interdepartmental team to ensure their new LMS was accessible. Libby said,

> "…we were able to work with them, and we gave them our feedback on the three different learning management systems. We used that POUR

framework to really pick the one that would be most accessible to all users, and they actually picked it."

In selecting an accessible LMS, the interdepartmental team at Hawthorn secured a huge win for disabled students in its most recent procurement cycle. The team is now working to document and formalize the process they used for the LMS procurement cycle. Libby explained that the Special Education Department is developing a checklist for their colleagues in Technology Services to use that outlines "these are checkboxes that you need to check when you're looking at buying curriculum and instructional materials, whether it's digital or paper."

The team wants to document the procurement process now so they can use it in the future to procure more wins for disabled students and save Hawthorn money. Libby said,

> "...when you look at the front end, if we were to have materials that are accessible before we even purchase them, it is going to save us a lot of money, and we wouldn't necessarily have to buy some of these additional tools to make content accessible."

Findings

In this section, we discuss the results of our analysis of the data from all three organizations: State Department of Education, Gibson School District, and Hawthorn Public Schools. First, we report the ways in which the Quality Indicators with Critical Components for Providing AEM, which were developed by the National AEM Center, show up in the data. Second, we share a key theme that emerged from the data, building and maintaining relationships.

Quality Indicators and Critical Components

There are 7 Quality Indicators that are further broken down into 28 Critical Components. In analyzing the corpus of data through the lens of the Quality Indicators and Critical Components, we found that all 7 Quality Indicators were addressed in the data and 13 of the critical components were addressed. Appendix B offers exemplars of how the Quality Indicators and Critical Components showed up in the corpus, and Table 2 provides an overview of who discussed the Quality Indicators and Critical Components.

Table 2: Who Discussed the Quality Indicators and Critical Components

Quality Indicator (QI)/ Critical Component (CC)	Number of Participants	State Department of Education	Gibson School District	Hawthorn Public Schools
QI 1	8*	✓	✓	✓
CC 1.1	3		✓	
CC 1.2	7	✓	✓	✓
CC 1.3	4	✓	✓	✓
QI 2	2	✓	✓	
QI 3	4*	✓	✓	✓
CC 3.1	1			✓
CC 3.2	4	✓	✓	✓
CC 3.3	1	✓		
QI 4	6[3]	✓	✓	✓
CC 4.1	5	✓	✓	✓
CC 4.3	4	✓	✓	✓
QI 5	4*	✓	✓	✓
CC 5.3	3	✓	✓	✓
CC 5.4	1			✓
QI 6	3*	✓	✓	✓
CC 6.2	1			✓
CC 6.6	1	✓		
QI 7	3*		✓	✓
CC 7.1	1			✓

Quality Indicator 1 (Coordinated System) and Quality Indicator 4 (Learning Opportunities and Technical Assistance) were, by far, the most discussed across all three organizations. Quality Indicator 2 (Provision in a Timely Manner) and Quality Indicator 7 (Resource Allocation) were the least discussed and were only addressed in data from two of the organizations. Quality Indicator 2 is not discussed by Hawthorn Public Schools, and Quality Indicator 7 is not discussed by the State Department of Education.

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[3] This number includes participants that discuss the Quality Indicator and its associated Critical Components.

Across the interviews at all three organizations, Critical Component 1.2, which pertains to ensuring digital educational materials are accessible at the point of creation or acquisition, was the most discussed. All but one participant discussed procurement as a core component of their organization's technology accessibility policy enactment process. Critical components 1.1, 1.3, 3.2, and 4.1, were also prominent topics of discussion throughout the interviews. Given Quality Indicators 1 and 4 were the most heavily discussed, it follows that 4 of the top 5 most discussed Critical Components are subordinate to Quality Indicators 1 and 4.

Critical Component 3.2 pertains to having guidelines for the procurement of accessible digital educational materials, work that is complementary to Critical Component 1.2. The data indicates that both Gibson School District and Hawthorn Public Schools were actively writing procurement guidelines throughout the 2021-2022 academic year, and State Department of Education was providing technical assistance to support the LEAs' work.

Participants also briefly discussed Critical Components 4.3 and 5.3, and six Critical Components were mentioned by one participant respectively: 3.1, 3.3, 5.4, 6.2, 6.6, and 7.1.

Given the limited number of interviews conducted in this study, it is possible that the interviews did not capture the entire breadth of the three organizations' work to provide AEM. The SEA and LEAs might, for example, be more heavily engaged in work that aligns with Quality Indicators 2 and 7 than the data indicates.

Looking broadly across the data pertaining to the Quality Indicators and Critical Components reveals that SEAs and LEAs are working on the Quality Indicators and Critical Components in a sequence that makes sense in their context rather than attempting to work on everything at once. Variations in the sequence of their work on the Quality Indicators and Critical Components is evident in the data; that reality is likely a function of the organizations' unique contexts.

Building and Maintaining Relationships

In addition to analyzing the data through the lens of the Quality Indicators and Critical Components, we analyzed the data using an emergent qualitative approach. The central theme that emerged from that analysis was building and maintaining relationships.

Relationships were central to the three organizations' AEM work. The professionals at all three organizations spent substantial time, energy, and intention building and maintaining relationships within their departments, within their organizations, and within the state. Some of those relationships were long-standing, and in some cases were established by the participants' predecessors. Other relationships emerged out of an organization's AEM work.

At Hawthorn Public Schools, the team benefited from longstanding relationships developed by their predecessors and utilized the opportunities that the AEM work provided to deepen those relationships and develop new relationships within the LEA. Nancy explained, "I'm a big relationship person, and Jen [Nancy's predecessor] was too… She developed relationships with school teams, for one. She developed relationships with techs… we have continued building those relationships. Our relationships are really even better now." Libby agreed that relationships between Hawthorn departments have gotten stronger, and she believed the AEM work was a catalyst. She said,

> "That happened, though I tend to be a little persistent when it comes to the students. So I kept getting on our tech department and reaching out to them, trying to get some different accessibility features… And so that helped build a relationship there… something that really helped is we were able to get some people in our technology department to go out to the schools and actually meet these kids and see their needs. It was like a snowball effect. Once we got a couple techs working with these kids and seeing what they can do when they're given tools, it really started to open a giant door for us.

As discussed above, strong relationships were also central to the AEM work at the State Department of Education. Norman and his Special Education colleagues have worked diligently over years to develop strong relationships with the LEAs in the state. The strength of those relationships was noted by both LEA and SEA employees. "They really know us and our work; it's just wonderful," said Nancy of Hawthorn Public Schools.

Aaron, one of Norman's colleagues, echoed Nancy's sentiment. "If I have to get on the phone, or if we have to get on a call, we know who we're talking to, and they know that we know their situation," Aaron said.

The relationships the State Department of Education has built and maintained with LEAs around the state facilitates their AEM work in two key ways. First, the strong

relationships make it easy for LEAs to agree to participate in the AEM Cohort. Second, the relationships provide conduits for the State Department of Education to disseminate the resources and toolkits they develop through the AEM Cohort to non-cohort districts, like Hawthorn Public Schools.

Relationships are central to a great deal of work in K-12, because without them, it is hard to get anything accomplished. The interdisciplinary nature of AEM work makes relationships even more crucial. AEM work requires expertise in disability, technology, and pedagogy, and that expertise is usually distributed across several departments in both SEAs and LEAs. Strong interdepartmental relationships allow professionals with the requisite expertise to collaborate to carry out AEM work. The data from this study indicates several departments within each organization were engaged in the AEM work. The departments engaged in the work included special education, information technology, instructional technology, and curriculum and instruction.

Nancy summarized why relationships are important and how she approaches building and maintaining relationships.

> "I mean, it's just being nice, it's being collaborative, it's being give-and-take. It's asking the question, 'And how can we work together to get this to happen?' versus mandating 'This has to happen today.' Because I'll be honest, we all want it to happen, like right now. But the reality of a school district is that you really have to work on building those relationships… We can talk about a lot of stuff, but if you don't, A, if people don't know you're authentic, and B, if you haven't worked hard to develop those relationships, we're just not going to get anywhere."

Recommendations

Study participants offered two key recommendations for other K-12 practitioners engaging in AEM work.

First, don't reinvent the wheel. Instead, modify the wheel to fit your context. Seek out expertise about AEM within your district, at your state department of education, within professional organizations, and at the National AEM Center. Your LEA or SEA is not the first to engage in AEM work. Find out what approaches other LEAs/SEAs have used, and use existing documentation to develop your AEM knowledge (see Appendix C for Recommended Reading). Then, use what you learned to modify the wheel to align with your context. For example, the organizations in this study used the Quality Indicators

and Critical Components to guide their work, but each organization addressed them in a sequence appropriate for their context.

Second, be persistent and flexible. AEM work will not happen overnight, and you will likely have to adjust your approach midstream to achieve your goals. As discussed above, AEM work is collaborative interdisciplinary work, and working with other humans is complex. Study participants emphasized how important it is to be persistent and stick with the AEM work, particularly when you confront resistance from individual colleagues or the system at large.

Appendix A: Methodology

The purpose of this study was to gain a deeper understanding of how K-12 SEAs and LEAs enacted technology accessibility policies, particularly when they had the support of the National AEM Center. We conducted semi-structured interviews, which ranged in length from 40-75 minutes, with eight individuals across the three organizations. Table 3 lists the individuals, their organizational affiliation, their title, and their department. Six of the eight participants identified as White and two identified as Black or African American. None of the participants identified as Deaf or disabled.

Table 3: Participants

Pseudonym	Organization	Title
Norman	State Department of Education	Program Manager
Aaron	State Department of Education	Director of Technology Development
Sarah	Gibson School District	Executive Director of Special Education
Genevieve	Gibson School District	Assistive Technology Specialist
Michelle	Gibson School District	Assistive Technology Specialist
Nancy	Hawthorn Public Schools	Director of Assistive Technology and Related Services
Libby	Hawthorn Public Schools	Assistive Technology Specialist
Tim	Hawthorn Public Schools	Director of Instructional Technology

The data were analyzed via several rounds of coding. In the first several rounds of coding, we used emergent approaches. In the final round of coding, we used a priori codes (i.e., Quality Indicators and Critical Components). This research was approved by the CAST Institutional Review Board.

Appendix B: Data Exemplars of the Quality Indicators and Critical Components

Quality Indicator 1: A Coordinated System

"… instead of having a list of state-reviewed materials that are then put on a list for districts to order from… we use open educational resources, which are resources that are available, usually at no or low cost… The teachers or the local districts have the sole responsibility of matching those materials to the curriculum standards. ... when we were an adoption state, we had guarantees built in that the publishers, in order to have their materials reviewed, to go on the list, had to agree to participate in the NIMAC [National Instructional Materials Access Center]. And, so when we went away from that adoption model, that assurance that publishers would participate in providing a copy of their materials to NIMAC that went away at the state level, and it was to be taken over by the local districts. That was communicated in some ways, but not fully understood by the districts. So we have lots of districts, we have hundreds of districts in the state and they are all signing assurances that they feel comfortable with what they're doing, but we're not sure that they are actually holding publishers to that standard that need to be held to be participating in NIMAC." (Norman, State Department of Education)

"So Genevieve and I divide the district, and both her and I are involved in the AEM Cohort and both of us have what we call pilot schools that we're trying some of the initiatives that the State Department of Education, who is also a part of the pilot, is kind of handing down to us as support." (Michelle, Gibson School District)

Critical Component 1.1: Strategic collaborations for creating and sustaining a coordinated system for providing accessible materials and technologies

"We continue to promote and talk about, sometimes I'm the higher level trying to work with the district level leadership on those bigger policy changes, the RFP language changes, contract language changes, educating some of our teaching and learning staff on that gen ed side of, 'Let's talk about this tool. How would this tool be used by other students in the district? It doesn't have to be a special ed tool. It's just a really good tool.'" (Sarah, Gibson School District)

"I think it's very important, and then even building the team. We've gotten sometimes to a point where we're like, well, maybe we need to add this person from this area because they may have more insight on how we could go about doing this piece to get us moving. So again, being open to not just thinking, 'Well, it's just us. It's all technology, we're AT, we'll do it, it's fine, we know what it is.' No, you need principals, you need

admin, you may need a teacher or two, you need instructional technology. There's so many pieces, again, to the puzzle that make it what it is, but you have to be open to doing that and having those conversations, and I think that we do a really good job of that here." (Genevieve, Gibson School District)

Critical Component 1.2: A means for ensuring that digital materials and technologies purchased or created for use by all students are accessible

"So now, what we're trying to do is put that level of thinking out to the school districts so that when they're working at acquiring things, at that point, it [accessibility] becomes a part of that purchasing process. And we don't wait until we get the stuff to figure out whether or not it's going to work for all kids. We work with the whole child, and we have the goal that all kids will learn. So, we have to ensure that we facilitate all the kids and make sure that there is accessibility there in anything we do. … if we implement on the purchasing side and we're upfront with the vendor. 'This bid that you're responding to, it must facilitate all kids. We must cover accessibility. You're not just going to ram us some stuff here, and then a percentage of our students can't use it, and then you go back to the back and try to sell them something else at a higher price. … if I'm about to buy a new student information system, and part of that system has to do with student testing, I want all students to be able to be tested.' … it [accessibility] will become a very big part of my choice in terms of the vendor that I go with, because it's very important." (Aaron, State Department of Education)

"But currently we are still working on the language, changing RFP language to make sure that we're providing for accessibility formats, making sure that we have that in contracts." (Sarah, Gibson School District)

"I think we've just done enough work in the past, and we see all the different requests that come in from our special education department to know that that's just, from ADA compliance thing, we have to make sure to a certain extent that we're able to give the student the accommodations that have been placed into their IEP. … If we adopt a platform that is not accessible for all students, I mean, that's just not best practice." (Tim, Hawthorn Pubic Schools)

Critical Component 1.3: A means for ensuring that accessible formats of text-based materials (print instructional materials and certain digital instructional materials) are provided for students who need them, with appropriate copyright protection

"The other piece that's really, I think, big on the accessible material side is that we are no longer a textbook adoption state. We are a go-open state, and so the limited number of textbooks that were available for districts to purchase are no longer there. And so

everything is available for districts to use at their discretion. … So it's gone from trying to hit a target, to a moving target, and sometimes an invisible target." (Norman, State Department of Education)

Quality Indicator 2: Provision in a Timely Manner

"… we are no longer a textbook adoption state. We are a go-open state… So it's gone from trying to hit a target, to a moving target, and sometimes an invisible target. And it's almost impossible to keep track of what the students will be needing and getting it to them at the same time as their peers who have regular print material." (Norman, State Department of Education)

Quality Indicator 3: Written Guidelines

"I just received some guidance from one of our psychologists that our technology services has issued out some website accessibility guidelines... I'm kind of looking over it, which I'm very proud of what they put. … So I'm very excited to see this document just come out, just encouraging people to really think about and how to check their websites to make sure they are accessible. … I'm also looking at beefing up our written guidelines on how to get accessible educational materials." (Michelle, Gibson School District)

Critical Component 3.1: Guidelines that specify laws and policies relevant to the provision and use of accessible materials and technologies, including assessment

"No." She said, "Barb came in and was talking about a meeting she had with you about 508 compliance, and how we really need to be aware of the criteria that you're looking at, and that you're going to create a digital checklist and all that. I was like, 'Oh my word,' because I kind of thought it was dead in the water because it happened late in the year. I really felt like we would work on it over the summer, and get it finalized for the following year. But I'm glad those conversations happened." (Nancy, Hawthorn Public Schools)

Critical Component 3.2: Guidelines for procuring accessible digital materials and technologies for all students

"Then the other side of it would be the whole procurement side is, what are our procedures on the front end, so that we make sure that we have materials that are accessible for the most number of students, so we're not caught in that middle piece of having to scramble to make the things fit? We want it to fit from the beginning. So they're very discreet, overarching procedures at different levels that need to be

disseminated to the right people throughout the district." (Norman, State Department of Education)

"Sarah, our top level supervisor, is working with curriculum really delving into looking at what are our guidelines and processes for procurement, what language is in our procurement procedures, as far as making sure that when we look at either a new technology program or textbook materials, that we have that in the get-go, kind of that accessible educational materials that's in the forefront of everyone's thinking." (Michelle, Gibson School District)

"… but in purchasing is what I'm talking about. So Libby has been critical in that work, and we are currently working on a checklist for tech when they're talking to vendors on the digital compliance pieces. So that is work, I think, that we will kind of fine-tune over the next year." (Nancy, Hawthorn Public Schools)

Critical Component 3.3: Guidelines for decision-making processes for providing accessible formats of print and text-based materials for students who need them

"Yeah. Gibson is one of our cohorts, so they're getting all of the resources. We've got an initiative that we want people at every IEP at the participating schools to stop in the middle of their accommodations or special factors, and just briefly discuss AT and AEM. And could it be something that the student would benefit from? Have that minute, two-minute, five-minute discussion." (Norman, State Department of Education)

Quality Indicator 4: Learning Opportunities and Technical Assistance

"Well, it's very interesting, because none of them [LEAs] have taken us up on the offer of coming in and doing trainings or meeting with folks other than just videos, doing the videos that we've done, like in the beginning of the introduction of what we're trying to accomplish." (Norman, State Department of Education)

"My portion has basically been to focus on the professional development piece and how we're going to work towards developing that next year… so just taking from some of the things we've done this year and expanding it… I went in and created an entire list for the year of pop-in topics that we can tackle, and that comes from us doing surveys, speaking to the teachers, seeing what their needs are, what don't they understand, what would they like to know more about..." (Genevieve, Gibson School District)

"We actually had this conversation yesterday. We do feel that there are a lot of trainings that we need to do with teachers to get their content accessible. I think that's going to be

a little bit trickier, because that's going to be a big learning curve for a lot of teachers." (Libby, Hawthorn Public Schools)

Critical Component 4.1: Content that is targeted at the differentiated roles and responsibilities of all stakeholders

"The resources that we're doing are basically growing out of our work around the cohort project, looking at actually the data-driven decisions of making recommendations for accessible formats for children in IEP meetings. We're focusing on the work that our districts are doing through initiatives that highlight what accessible materials are, how they benefit students, and trying to get a collective basic understanding at the building level of being able to intelligently talk at a basic level about AT and AEM. And so, everything that we've done through the initiatives that we have created specifically for our partner districts, we're providing it in, if you will, a toolkit for all of the other districts." (Norman, State Department of Education)

"The DOE was kind enough to purchase or obtain really cool calendars that were in braille. So we were able to give everyone a calendar. Of course, and reminding them, giving them the sheet of information, giving them access to the website. So we're planning to ramp it up even more and do little monthly check-ins with our schools or our Special Education Department, but also hopefully hit maybe not every month, but quarterly, maybe the larger staff meetings with real short, quick drop-ins is what we're calling them. So that way, especially with the staff meetings, it's not so intrusive of their tight schedule, but it keeps us in the forefront of their mind talking about accessibility. So I'm hoping to see even more increase, especially as we spread it across the district. … But a lot of the materials I'm running into, the teachers are getting or the local school is purchasing, so it really needs to go down even further. … we've really got to get down to that local level in helping the teachers understand to really be mindful [of accessibility] when they're pulling stuff—Especially from Teachers Pay Teachers." (Michelle, Gibson School District)

"She got that [Read&Write] approved, it went district-wide, and we started training both special education and general education teachers. We started training at the schools, and by this time, I was on board. We would train anybody that would let us come train. Small groups, big groups, we'd train whole schools…" (Nancy, Hawthorn Public Schools)

Critical Component 4.3: Use of federally-, state-, and locally-funded sources of high- quality content, training, and TA

"I would recommend definitely school districts looking into, especially here in the state, utilizing what's on the AEM website right now. TAM [Take A Minute] is an easy place, an

easy initiative to start with to get the word out and that basic understanding of what is AT, and what is AEM, and how do they work together?" (Michelle, Gibson School District)

"I really used resources. So, I went to the State Department of Education. I looked at our state level procurement information. Worked with, got information, and then I used some other stuff from CAST as good examples from other districts who've already gone through the AEM project in previous cohorts." (Sarah, Gibson School District)

"The AEM Center website is where we got the clause about the NIMAC in there for disability. Definitely the POUR, that was something that we looked on there a lot for." (Libby, Hawthorn Public Schools)

Quality Indicator 5: Data Collection

"… we've also collected data along with our initiative… And we're having that analyzed as a pre and a post. And we have some statistical significance through a chi-squared analysis of some of the answers." (Norman, State Department of Education)

"Between our two schools, I think we had close to 200 people submit the pre-survey, and we're currently trying to get the post-survey completed. … Hopefully they'll fill out their post, because we're hoping to see some people say, 'You know what? Yeah, I know what you're talking about now. I can at least be knowledgeable and tell somebody what AEM is.' We also sent every staff member, even the kitchen ... I gave it to everyone, to all the people, because I think that's important. I know at first, you're like, kitchen staff? Well yeah, there's a head kitchen lady who does a website." (Michelle, Gibson School District)

Critical Component 5.3: Methods for securely collecting data on the extent to which students who need them effectively use accessible formats of materials

"… when we got that data, we took that straight back to say, 'Hey, look, you're not wasting your money. Our kids are actually using this [accessible format]. It is benefiting them. We've got data to support.' We take a lot of data… and we can say, 'Okay, School A is documenting this many users, and this is how we know that they're using it,' because we can show them that data. … We've worked hard in the last couple of years to collect the right information, and we fine-tune that all the time. It's always a consideration. How do we measure our success for our work? But then also, how do we demonstrate that to the district, and share that with people who are making the decisions?" (Nancy, Hawthorn Public Schools)

"We've actually broached that in our statewide IEP system so that we can actually tease out the students who are at or near grade level and use accessible materials. Those students that are below grade level that are using non-modified exact content accessible format. And then we've gone further to look at those students who are using other formats with modified material." (Norman, State Department of Education)

Critical Component 5.4: Methods for securely collecting data on the proportion of students across disability and demographic categories that are receiving accessible formats of materials, and that an appropriate range of formats are being provided to those students

"…we can show comparisons between middle schools, or we can show comparisons between specific types of students. We can show the whole district that has participated in our pilot. So that data has been huge, and just kind of getting us in, and talking about assistive technology." (Nancy, Hawthorn Public Schools)

Quality Indicator 6: Data Use

"Then we're looking closely at our systematic data collection process, how we use the data to guide change." (Michelle, Gibson School District)

Critical Component 6.6: A systematic approach that supports effective data analysis and use

"The resources that we're doing are basically growing out of our work around the cohort project, looking at actually the data-driven decisions of making recommendations for accessible formats for children in IEP meetings. … So we look at it as our cohort districts are getting extensive technical assistance, and everyone else is getting the benefit of the technical assistance that we're growing out of that project." (Norman, State Department of Education)

Quality Indicator 7: Resource Allocation

"So other barriers, money. You've got to get a district to prioritize the funding of it… you have to get your stakeholders at the county level on board for that, and then the money has to be appropriated for that, and then we have to show that we're using it. We want to be good stewards of our resources, always, always." (Nancy, Hawthorn Public Schools)

Critical Component 7.1: Resources that are provided for fiscal, human, and infrastructure needs

"I hate to say it, but when you look at it on the front end, if we were to have materials that are accessible before we even purchase them, it is going to save us a lot of money, and we wouldn't necessarily have to buy some of these additional tools to make content accessible." (Libby, Hawthorn Public Schools)

Appendix C: Recommended Reading and Resources

Best Practices & Supporting Documentation

National Center on Accessible Educational Materials (2020). *K-12 Critical Components of the Quality Indicators for the Provision of Accessible Educational Materials Accessible Technologies*. Lynnfield, MA: Author. Retrieved January 11, 2023 from https://aem.cast.org/get-started/resources/2020/k-12-critical-components-of-the-quality-indicators-for-the-provision-of-accessible-educational-materials--accessible-technologies

National Center on Accessible Educational Materials (2021). *Study Guide for the AEM Quality Indicators with Critical Components for K-12*. Lynnfield, MA: Author. Retrieved January 11, 2023 from https://aem.cast.org/get-started/resources/2022/independent-self-study-guide-for-the-aem-quality-indicators-with-critical-components-for-k-12

National Center on Accessible Educational Materials (2022). *Innovation Configuration for the Quality Indicators with Critical Components for Providing AEM and Accessible Technologies in K-12*. Lynnfield, MA: Author. Retrieved January 11, 2023 from https://aem.cast.org/get-started/resources/2022/innovation-configuration-for-the-quality-indicators-with-critical-components-for-providing-aem-and-accessible-technologies-in-k-12

Relevant Research & Scholarly Literature

Hashey, A. I., & Stahl, S. (2014). Making online learning accessible for students with disabilities. *TEACHING Exceptional Children*, 46(5), 70–78. https://doi.org/10.1177/0040059914528329

Lazar, J., Goldstein, D. F., & Taylor, A. (2015). *Ensuring digital accessibility through process and policy*. Chicago, IL: Morgan Kaufmann.

Shaheen, N. L. (2022). Technology accessibility: How U.S. K-12 schools are enacting policy and addressing the equity imperative. *Computers & Education*. 179 (April, 2022), 1-12. https://doi.org/10.1016/j.compedu.2021.104414

Shaheen, N. L., & Lohnes Watulak, S. (2019). Bringing disability into the discussion: Examining technology accessibility as an equity concern in the field of instructional technology. *Journal of Research on Technology in Education*. 51(1), 187–201. https://doi.org/10.1080/15391523.2019.1566037

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