

**THE INSTRUCTIONAL MATERIALS ACCESSIBILITY
ACT: MAKING INSTRUCTIONAL MATERIALS
AVAILABLE TO ALL STUDENTS**

HEARING

BEFORE THE

**COMMITTEE ON HEALTH, EDUCATION,
LABOR, AND PENSIONS
UNITED STATES SENATE**

ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

ON

S. 2246

**EXAMINING S. 2246, TO IMPROVE ACCESS TO PRINTED INSTRUCTIONAL
MATERIALS USED BY BLIND OR OTHER PERSONS WITH PRINT DIS-
ABILITIES IN ELEMENTARY AND SECONDARY SCHOOLS**

JUNE 28, 2002

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THE INSTRUCTIONAL MATERIALS ACCESSIBILITY ACT: MAKING INSTRUCTIONAL MATERIALS AVAILABLE TO ALL STUDENTS

FRIDAY, JUNE 28, 2002

U.S. SENATE,
COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS,
Washington, DC.

The committee met, pursuant to notice, at 9:59 a.m., in room SD-430, Dirksen Senate Office Building, Senator Dodd presiding.
Present: Senator Dodd.

OPENING STATEMENT OF SENATOR DODD

Senator DODD. [presiding]. The committee will come to order.

Let me thank all of our witnesses this morning for their presence here and all of you in the audience for attending this hearing today. We are very grateful to have you here.

There is a timer up here with a little bell that will go off after about 6 minutes or so—I do not want you to feel obligated to stop at that point, but it is just an idea, so that we can get through the testimony and get to questions. But I do want all of you to know what whatever prepared testimony and materials you think the committee ought to have, I am going to make the unanimous consent request that all documentation and all full statements be included as a part of the permanent record of the committee. And again, the clock and the bell are not to stop anyone, but just to give you an idea so you can begin to wrap up your comments at that point, so we can move the testimony along.

Colleagues will be coming in and out. We actually thought we would be in session today, and we may be in session, but the votes stopped last night when we completed action on the last bill. So this being the 4th of July break in the Senate, many of my colleagues have already departed Washington—I cannot imagine why they want to do that—to go back to their States and districts. And as a result, I cannot promise you that other members will show up this morning, but I know of many members who are interested in this subject matter. We have a lot of bipartisan support for the legislation. So I would not want anyone to interpret the lack of presence of other members this morning as any indication of lack of interest in the subject matter or support for what we are trying to do, but really more the unpredictable reality of the Senate terminating its business last evening and people heading off to be with their families and their constituents back home.

So let me begin our hearing this morning with a few opening comments myself, and then I am going to turn to my former colleague from the House of Representatives, Pat Schroeder, who is today president and chief executive officers of the Association of American Publishers, and then I will introduce the other witnesses.

The hearing we are holding this morning in the Committee on Health, Education, Labor, and Pensions is entitled, "S. 2246, The Instructional Materials Accessibility Act: Making Instructional Materials Available to all Students." That is a long title for a bill, but that is what it is.

So let me express my thanks again to all of you for joining us. We are here this morning to examine what I think is a very critical piece of legislation, S. 2246, The Instructional Materials Accessibility Act. We call it "IMAA." Everything has an acronym around here, but I have suggested that we could call this one "Mmm-ahh." It has sort of audio sound to it, and we could say that to people, "Mmm-ahh." It will literally grant blind and visually-impaired students the ability to pursue their studies at the same time as their sighted classmates.

Critical laws such as the Americans with Disabilities Act and the Individuals with Disabilities Education Act clearly establish the principle that people with disabilities have a right to the same public accommodations granted to those without disabilities. While the ADA and IDEA clearly call for blind and visually impaired students to have timely access to the same textbooks that their sighted classmates use in the Braille format that they need in order to read, sadly, this is not often the case. Far too often, blind and visually-impaired students must now wait months for their local school districts to convert their books into the Braille format that they require.

However, important laws such as the ADA and IDEA do not specify exactly how we actually achieve equality in these accommodations. As I learned recently in efforts to enact national election reform legislation, there is a big difference between simply stating that all people, regardless of disability, are required to equal treatment and actually enacting policies that ensure that this commendable goal is truly reached.

The Instructional Materials Accessibility Act seeks to bridge the gap in this area.

At the same time that blind and visually-impaired students face interminable waits for their school textbooks to arrive in Braille, the school districts in which they live often face exorbitant costs to produce these conversions. As we will hear from some of our witnesses this morning, those blind and visually-impaired students who are forced to wait long materials for their school materials in Braille face unfair impediments to their ability to earn an education. Clearly, something needs to be done to better enable students with disabilities to access the instructional materials that they need.

To combat the problems presented by the often difficult and costly Braille conversion process, 26 States have passed laws requiring publishers to provide a copy of textbooks in electronic format to aid in Braille conversion. While the efforts of these States are laudable, the problem lies in the fact that these many laws do not require

the use of the same electronic format for Braille conversion. Alarmingly, there is no current uniform electronic format available nationwide to ease the transcription of instructional materials into Braille and other alternative formats.

No one is well-served when we force blind and visually-impaired students to unfairly wait for the opportunity to learn, or when we force publishers to create multiple electronic file formats for exactly the same school textbooks.

The Instructional Materials Accessibility Act offers a significant leap forward, we believe, for both members of the blind community and those that produce instructional materials for their use.

Any answer to the problems presented by the difficulty of Braille conversion must be prepared to answer two questions. First, how can we ensure that blind and visually-impaired students receive the essential school materials in the Braille or alternative format they require at the same time as their sighted classmates. And second, how can we better enable our Nation's schools to meet the instructional material needs of their blind and visually-impaired students?

The Instructional Materials Accessibility Act seeks to answer both of these very important questions.

In order to best expedite the Braille conversion process, the IMAA will mandate the creation of one uniform electronic file format that we believe will greatly ease the often laborious Braille translation process. The creation of a single format will not only ease the burden placed on publishers by the multiple State laws requiring different electronic files, but it will also ease considerably the Braille conversion process by allowing those who prepare instructional materials in alternative formats to rely on a single conversion method.

Second, the IMAA will create the National Instructional Materials Access Center to serve as a repository for these electronic formats so that they can quickly and efficiently be disseminated to local school districts. With the enactment of IMAA, schools will simply need to reach out to the National Instructional Materials Access Center to obtain the school materials required by their students in the uniform electronic file provided by the publishers.

Finally, the IMAA will provide critical funding to assist State and local educational agencies, effectively convert the newly created electronic files into Braille so that blind and visually-impaired students have access to the same textbooks their sighted classmates are using.

I want to especially thank the Association of American Publishers, the National Federation of the Blind, and the American Foundation for the Blind, for their willingness to come together to help produce a very creative and far-reaching piece of legislation. I am particularly pleased that we will soon hear from the respective leaders of these two organizations. I have mentioned already my dear friend and former colleague from the House, Pat Schroeder, of the AAP, and Marc Maurer of the NFB.

It is largely because of their dedication to this effort that we are here today with this fine bill.

Finally, I want to thank Representative Tom Petri, my colleague from the House, and George Miller from California, with whom I

was elected to Congress a quarter-century ago, who are the primary sponsors of this bill in the House of Representatives. I look forward to continuing to work with my House colleagues to ensure that this critically important legislation becomes law not some day, but this year. That is my determination to see that that happens.

We often hear today the pledge that we will “leave no child behind.” To accomplish this laudable goal which we all share, we must provide that all children have the resources they require to succeed in school without regard to the disabilities that some students face. May I suggest that we also make every effort to ensure that we leave no blind child behind by passing The Instructional Materials Accessibility Act.

It is with great pleasure that I welcome and thank our witnesses for appearing this morning. I look forward to their testimony.

As I am introducing our witnesses, let me also tell you—and I mentioned this to Pat Schroeder, and Marc knows this as well—but for those of you whom I have not met in the past, like any person, I was deeply affected and learned so much because of my wonderful parents and my remarkable sister who is visually-impaired, legally blind, and who is a teacher. She has two master’s degrees and has taught for 35 years as an early childhood development specialist. She helped revive the Montessori system of teaching at The Whitney School back in 1950’s.

I watched my sister Caroline grow up, for whom my parents and my mother in particular made Herculean efforts all the time, whether it was the New York Times books, the latest piece of equipment that came out in the 1930’s or the 1940’s or the 1950’s, so she could use microscopes and run her books underneath them. But it was expensive, and my parents had some resources and they could afford to do it, but it was always a battle to make sure that she had the ability to stay current with her school work.

Having watched my sister grow up with the struggles of someone who is visually-impaired or legally blind, and knowing how well she did had it not been for my parents who put the effort in, she might not have been able to achieve the success she did. But because she did, she has made a difference in the lives of thousands of people as a great teacher in the State of Connecticut.

So I was determined when I came to Congress in 1974, beginning with the acts that we passed in P.L. 490, going back to those days—I see some gray hair in the audience, and some will remember those days more than 25 years ago—and then, working with Tom Harkin and others over the years, I have been determined to see to it that other Caroline Dodds growing up on my watch would never have to go through what she went through. So am not going to put a name on this act, but if I could, I would name it for my sister.

I thank all of you for being here, and now we will turn to our witnesses.

This morning, we are going to hear from a panel of four witnesses. First, we will hear from my former colleague, Pat Schroeder, who is now president and chief executive officer of the Association of American Publishers. She served with me in Congress, representing the State of Colorado and the Denver area for 25 years. During her time in Congress, Ms. Schroeder was chair of the House

Select Committee on Children, Youth, and Families. I have often said I love to talk about the bill that we passed dealing with the rights of parents to be with their children and their loved ones, which was so critically important to so many people, the unpaid Family and Medical Leave Act. A lot of people have taken credit for it, the present presiding officer of this committee being one of them, and I offered the bill in the Senate. But the first person who introduced this bill, who never got the credit she deserved, was a woman by the name of Pat Schroeder in the House.

I will never forget the day the bill was signed by President Clinton, the very first bill that he signed into law, I sat there at the table and unbelievably looked out, and we had four or five people from the Senate and others, and there, out in the audience, was Pat Schroeder, not standing with the President to be part of the signing ceremony.

So I want to say to everyone over and over again that she deserves as much credit, in fact more than anyone else, for the passage of that law. So, you did a lot of great things when you were in the House, but I am particularly grateful for your work on that bill, which I take great pride in having authored here in the Senate.

I am very delighted to have Pat with us today and grateful for all the work that she has done and that the AAP is continuing to do in this particular effort.

Our second witness is a special witness whom I have asked to come down, and that is Jessie Kirchner from Guilford, CT. Jessie is entering her senior year at Guilford High School, is a member of the Connecticut Chapter of the National Federation of the Blind, an organization that I know well. As I mentioned, my sister Caroline is also a member. I had the distinct pleasure to meet Jessie at a press conference that we held in April when I said, "Jessie, why don't you come up and say a few words?" And Jessie not only came up and said a few words, but she bowled everyone over with the extemporaneous comments that she made that day.

So I am pleased that you could come back down to be a formal witness now in front of the U.S. Senate, and I thank you for your work.

Next, we will hear from Dr. Marc Maurer, whom I have introduced. Marc has been president of the National Federation of the Blind since 1986, and has been a vocal advocate for the blind since high school, when he discovered that blindness need not be an incapacitating disability. He has used his talents and skills as a lawyer to advance the interests of blind individuals.

I thank you once again, Marc, for your presence here today.

Our final witness is Barbara McCarthy, from Richmond, VA. Barbara is director of the Library and Resource Center of the Virginia Department for the Blind and Vision Impaired. She is also president of the Association of Instructional Resource Centers for the Visually-Impaired. In these roles, Barbara has worked to provide textbooks to the visually-impaired and blind students from Virginia.

We thank you for all of your wonderful work, Barbara, and are pleased to have you with us.

With those introductions, Pat Schroeder, we will begin with you, and we thank you for joining us this morning.

STATEMENTS OF PATRICIA SCHROEDER, PRESIDENT AND CHIEF EXECUTIVE OFFICER, ASSOCIATION OF AMERICAN PUBLISHERS, WASHINGTON, DC; JESSIE KIRCHNER, GUILFORD, CT; MARC MAURER, PRESIDENT, NATIONAL FEDERATION OF THE BLIND, BALTIMORE, MD; AND BARBARA McCARTHY, DIRECTOR, LIBRARY AND RESOURCE CENTER, VIRGINIA DEPARTMENT FOR THE BLIND AND VISION IMPAIRED, AND PRESIDENT, ASSOCIATION OF INSTRUCTIONAL RESOURCE CENTERS FOR THE VISUALLY IMPAIRED, RICHMOND, VA

Ms. SCHROEDER. Thank you, Mr. Chairman. Thank you for your very, very nice words.

I am basically going to put my statement in the record because your opening statement says that you know as much about this bill as any of us in this room, which is so characteristic of you, and we cannot thank you enough for all that you have done.

I am here basically to say that the publishers whole-heartedly support this, and I really want to salute one publisher who is here, Pearce McNulty from Houghton-Mifflin. He is here, and he has been leading many of them to keep everybody on line, and they are really very enthusiastic and thrilled that this has come this far.

As you talked about this, your record has always been one where you have done what is right, whether family and medical leave, or this Instructional Materials Accessibility Act. There is not a lot of money and power in this, but this is what really, really needs to be done, and I salute you for saying that you are going to do everything you can to get the House to move. That is going to be a challenge, but let us get it done this year, because even when you get it done, it is going to take a while to get it up and moving.

The reason why publishers are so supportive of this is, as you described, the total chaos that is out there. It is chaotic and costly, and the bad thing is that, for all the chaos and cost, at the end, a lot of young students still do not get the materials on time.

So this is a great way to break through that clutter. While we have 26 different States doing something, and the others all have random approaches, this is a real focus. This makes sense, and this is how we really can make sure that no child is left behind.

Who could not be for the repository? It will also allow smaller publishers to participate, because it is terribly costly to deal with this whole random system. This would allow independent and smaller publishers to consider getting into the school materials business.

So what we want to say is that we are here, and we are ready to do anything we can to help you move this. We thank you so much for your dedication and the fact that you are having a Friday hearing, which is historic in the Senate, and continuing to work—

Senator DODD. You know, you just cannot resist these House Members. You invite them over, and they really want to poke us in the eye at least once. [Laughter.]

Ms. SCHROEDER. We always lose our manners, don't we? [Laughter.]

But this really shows your commitment, and I want to thank you, and I will pass the microphone on, because we really want to hear from the other witnesses. Please call on us 24/7. We are ready to do whatever it takes to get this bill out.

Thanks again.

Senator DODD. Thank you, Pat, so much. I will have some questions for you in a few minutes about some things we need to look at, but I am very grateful to you for all your terrific work on this in the AAP.

And Pearce, we thank you for being here this morning representing the publishers and one of the companies that will be involved in this.

[The prepared statement of Ms. Schroeder may be found in additional material.]

Senator DODD. Jessie, we thank you. I have introduced you already. You will have to pull the microphone close. My colleague from South Carolina, Senator Thurmond, who is now over 100 years old, is quite a fellow, and he calls that "the talking machine." So if you could bring that "talking machine" a little closer so we can hear you.

Thank you, Jessie. We are anxious to hear your words.

Ms. KIRCHNER. Mr. Chairman and other members of the committee, good morning. My name is Jessie Kirchner, and I will be entering my senior year this fall at Guilford High School in Guilford, CT.

I am involved in several school clubs and extracurricular activities, including the national and French honor societies, Safe Rides, and select choral and instrumental groups. I plan to major in English and philosophy in college, with the goal of eventually attending law school.

I am a Braille reader, and I am speaking in support of S. 2246, The Instructional Materials Accessibility Act: Making Instructional Materials Available to All Students.

First, let me thank you for the opportunity and the privilege to speak to you today about such important legislation. In addition, I wish to especially thank my Senator, Senator Dodd, for introducing this bill and for his commitment to moving it forward. Hopefully, I can give you an idea of how the current system works from a student's perspective so you can understand what a positive impact this bill will have on visually-impaired students across the country.

Braille books required for the school year beginning in September must be ordered by March of the previous school year. Thus, planning begins in February, when we must determine which courses we expect to take. Next, a list of required textbooks is requested from next year's teachers. We determine which books are not already available in Braille or on tape and order them in Braille. A single Braille textbook may consist of over 30 volumes, of which this is the typical size—so 30 of those could be a typical mathematics textbook, for instance.

Senator DODD. Would you hold that up again, Jessie? You say 30 of those would be one math textbook.

Ms. KIRCHNER. Yes.

Senator DODD. So that will give people an idea out there—and by the way, I want to thank CSPAN for being here today to cover this so that a broader audience can hear about it—but 30 of those for basically one math textbook, just to give people an idea.

Ms. KIRCHNER. Yes.

Senator DODD. Please go ahead.

Ms. KIRCHNER. They may take months to produce. Ordering books in March should allow volumes to start arriving by the beginning of the next school year.

The process sounds simple, but in reality it is really complex. First, course descriptions for the next school year are not normally available until after March, and course scheduling is done even later. We must start the process ahead of everyone else and may find out after ordering our books that we have schedule conflicts. For instance, this year, I will be unable to take wind ensemble because another course I would like to take, Western civilization, is being offered during the same period. Adding physics in place of wind ensemble may mean not getting a physics textbook in time.

Sometimes the schedule conflict requires completing a course during the first semester in a double period rather than over the entire year in a single period. This actually happened to me freshman year. My geometry book was in Braille, and volumes were sent as they were completed, but they continually arrived too late because the typist could not keep up with the class pace. So I would get Volume 3 when I was supposed to be getting Volume 5, for instance, and had no book for about 4 months.

Senator DODD. But geometry is easy anyway, isn't it?

Ms. KIRCHNER. Oh, yes, definitely. [Laughter.] Better even than algebra.

Senator DODD. So why do you need a textbook, Jessie?

Ms. KIRCHNER. Yes, definitely. [Laughter.] Luckily, it did not happen this year in pre-calculus.

Senator DODD. That is even easier. [Laughter.]

Ms. KIRCHNER. Oh, yes.

But some courses are available to students only if they qualify for them on the basis of a sufficiently high grade in the pre-requisite course. For example, I took pre-calculus this past year and needed minimum of a B average to take calculus next year. However, I could not wait for my final grade before having to order my calculus book in March at a cost of \$2,000. If I do not take calculus, my school will have spent \$2,000 for nothing, and I still will have no math textbook to use in September. But luckily, I am taking calculus, and the book is all set, so it was a good thing.

Senator DODD. Good.

Ms. KIRCHNER. Also, town budgets are passed, at least in our town, in June. If requests for new textbooks are approved, the books are purchased over the summer and arrive by September—all except for the Braille versions. I know someone who personally experienced this. By September, he had a math book in Braille, but it was the wrong one. The new one had been quickly ordered but could not be produced in time, and the volumes kept arriving after the material had already been covered, so the student's grades and

self-esteem suffered, and sadly, he thought that he was the problem because no one else in the class was complaining.

In addition, some Braille textbooks are not available in time because there is only a limited number of competent Braille typists in the State. They must know the various Braille codes. For example, math is typed in what is called Nemeth code, standard English in literal code, and science text in scientific code. If a good typist gets an order for three books at once, he or she might not be able to finish them all on schedule.

Moreover, books on tape are wonderful, but in general, textbooks in Braille are preferable. Textbooks are ordered on tape if they are available when a Braille copy is not. However, turning to the same page the teacher is on in class is impractical with tapes. And going back and looking up quotes and other facts is very difficult.

In addition, tapes can also be defective, as I painfully learned this past year. By the time I discovered that two cassettes of my history book were blank, it was too late to order new ones, so I had to take the quiz basically on my notes. And the homework had to be done, so each night, I had to scan pages from a printed copy into my computer before I could start my homework. My sighted peers probably had much of their assignment done in the time it took me to scan the pages.

Finally, without a textbook in class, we often have to rely on friends, parents, and paraprofessionals to read materials to us when we are perfectly capable of reading them ourselves. We do not like to take our friends' time, because they have their own work to do.

Passing this bill will solve the problems I have discussed and make Braille textbooks available at the same time as printed ones are available for my sighted peers. Furthermore, the fact that books will be available electronically will allow the option of downloading them into a Braille word processor or laptop computer.

Although Braille hard copies of textbooks are preferable to tapes, they are bulky and difficult to carry. The new electronic format will give students the choice of obtaining their Braille textbook in a hard copy or reading it in Braille from a Braille word processor. The latter facilitates portability and allows us to access information more quickly and easily.

Overall, our time and attention will be more appropriately focused on learning rather than on getting the information.

Again, thank you, Senator Dodd, for your leadership with this critical legislation and for calling this hearing. Having a textbook in class like everyone else should be a right, not a privilege. To move us closer to this point, passage of The Instructional Materials Accessibility Act is essential.

Senator DODD. Jessie, you are terrific.

Do the rest of you want to testify now, or do you want to just leave it there? [Laughter.] Aren't you glad to be following that, Marc? We are happy that you are here, Marc.

Thank you, Jessie, very much. That was eloquent as always, and I will hire you right now. You can be my lawyer. I am very confident that you will be a great asset to whatever profession you choose to go into.

Thank you for your eloquence today and your hard work. And thanks to your parents, too, for the work they do.

[The prepared statement of Ms. Kirchner may be found in additional material.]

Senator DODD. Marc?

Ms. MCCARTHY. Thank you very much, Senator Dodd.

I am Marc Maurer, president of the National Federation of the Blind, and I would like to say a few words of my statement which has already been submitted.

Members of the National Federation of the Blind have first-hand experience with the need for the legislation before you today. All of our leaders and the vast majority of our members are blind. In my own case, I read Braille. What would I have done in school if my mother had not put other things aside and taken the time to learn Braille herself so that she could transcribe my books into Braille by hand for me?

Looking back on it, I was unusually fortunate. When she could not produce a book for me in Braille, she would read it to me. This was my experience, but it is not the present-day experience of most blind students. The demands on families are just too great, and training programs to teach families are nonexistent.

On January 8, 2002, President Bush signed the latest amendments to the Elementary and Secondary Education Act, declaring "No child left behind" as the preeminent national policy in education. This was a commitment of our generation made as a promise to all children in America. To keep this promise for blind children, we need a new Federal law on instructional materials production.

Books in Braille, speech, or large print are often provided to blind students on a piecemeal basis and sometimes not provided at all. I think the best demonstration is the previous witness here. This happens because there is no uniform and rationally organized system to have print editions of standard textbooks created in formats other than standard print. In former times, when most blind children attended State-run schools, the schools could get together and agree on the books that all of them would use, and the American Printing House for the Blind would produce the books. Now, blind children study in classrooms alongside sighted children. We expect them to learn and to compete on equal terms. This means having the same tools, the same textbooks, available at the same time. This is an obligation of our educational system that must be kept, and The Instructional Materials Accessibility Act is designed to do just that.

The key to making this legislation work is the publishers' agreement to produce an electronic version of each printed textbook sold to any school district in America. This electronic text will be deposited by the publishers in a national distribution center where all school districts in the country can obtain it.

This is a simple approach, but Federal legislation is needed to put it into effect. That is where we come to you for help.

The National Federation of the Blind, the Association of American Publishers, representatives of States, textbooks producers and others have reached consensus on the approach needed and recommended in S. 2246. This bill includes responsibilities of publish-

ers of textbooks as well as for educational programs at all levels, Federal, State and local. Rather than placing all of the responsibility on States and local schools as is now the case, along with the publishers, this legislation creates a system that is simple to operate, easy to understand, and effective for the students.

Schools will still obtain and produce books in Braille when they are needed for each blind student, but an infrastructure will at long last be in place to help them do it.

The Association of American Publishers and its president, Pat Schroeder, deserve high praise for their constructive work on behalf of the industry affected by this legislation. Also, I want to thank you, Senator Dodd, for your leadership in sponsoring S. 2246 and for moving the bill forward to consideration. "No child left behind" means no blind child, too, as you have said.

Schools and educators in every State need your help in keeping this commitment. Members of the affected industry are ready to step up to the plate to do their share. Now, at last, with support provided by the Federal Government, we can see a day when each blind child will actually have the chance for an equal educational opportunity. That is what this bill is all about.

The National Federation of the Blind urges you to enact it into law this year, and I thank you very much for the opportunity to participate in the hearing.

Senator DODD. Marc, thank you so much, and we thank your mother as well. She sounds like a remarkable woman.

Mr. MAURER. You would like her, Senator.

Senator DODD. Yes, I think I would. I like her already, just having heard what a dedicated parent she was.

[The prepared statement of Mr. Maurer may be found in additional material.]

Senator DODD. Barbara, we thank you for joining us and we are anxious to receive your testimony.

Ms. MCCARTHY. Thank you very much, Mr. Chairman, and thank you for inviting me here today.

I am Barbara McCarthy from Richmond, VA. I work with the Department for the Blind and Vision Impaired, and I run an instructional materials and resource center that produces Braille and large-print textbooks for blind and visually-impaired students.

What I am about to tell you and the purpose of this legislation have not been a Senate priority. There are great economic and international issues before you, and we all understand and recognize that.

What I am going to tell you about, however, is the priority within the community of blind and visually-impaired people and the professionals who work with them.

Technology has opened many opportunities to provide all of us with access to information. This legislation is a matter of allowing technology to provide access to information. Technology offers the potential to provide the materials that all students, including those who are blind and visually-impaired, must have in order to receive an equal quality education. Ultimately, technology will allow for lower materials cost, faster delivery, and better student performance.

If I could have called this hearing, I would have invited you all to Richmond to see what we do at the Library and Resource Center this time of year. In fact, today, if you were to visit any one of the materials centers that are located in 45 States in the country, you would see similar activity. And I just want to explain the 26 Braille bills—those are 26 States that have passed Braille bills, but there are 45 States that do what I do at an instructional materials center.

At the Library and Resource Center in Richmond, we provide Braille and large-print textbooks to all Virginia students who are blind and visually-impaired, and that is about 550 students who receive the textbooks. We serve quite a few more than that—we serve about 1,300 students—but many of them do not receive textbooks for various reasons; some of them are infants, some of them are multiply handicapped and are not reading.

We loan textbooks for the school year, and at the end of every academic year, the books are returned and made available to be loaned to another student for the next year. So it is more of a centralized depository. We loan them out, they come back, they go back out the next year. And there are many States that operate a similar kind of activity.

The other thing that would be interesting for you to know is that the Association of Instructional Resource Centers actually has a sort of standing agreement which we have had for about 20 years that we share textbooks. During the school year and this time of year, when we are gearing up for the next school year, if someone from another State needs a book that I have, and I do not need it, I would give it to them or loan it to them for the next school year.

This time of year, we are busy producing Braille and large-print textbooks for the next school year. Most books have already been ordered and will likely be ready when school begins. However, last week, I received orders for five books to be produced in Braille—two algebra, a calculus book, a geometry book, and this biology book. And if I could—I do not know if anybody can come and get it—but it might be interesting for you to be looking at this book as I am talking about it, because it is quite a lengthy book.

June is really very late in the process to receive orders for Braille books—that is not going into the record, by the way; I do need to take it home with me—but June is really considered very late to be ordering these Braille books.

I was able to find people to transcribe the math books that I just cited, but the biology book that you are looking at right now, I have not been able to find someone for. The other four math books will likely not be ready when school starts. If I am lucky, I will have a couple of volumes, but that is not even a guarantee that I will.

This biology book, I am still looking for someone to do it, and by the way, if there is anybody in the audience who wants to transcribe it, see me after the hearing.

Regardless of whether I receive the book early or late, there is a student who needs this book in Braille and will suffer without it when school starts.

Orders for textbooks for the next school year should be received, I say, no later than April 30, but I really like Jessie's March date much better, and I think I am going to go to that one. The point

of this is that it really takes a long time to get the process going and allow us time to find people to transcribe the books and produce them. Any order received after this date is really at risk of not being ready when school begins.

When the order is received, we search our own database to see if we have either produced the book ourselves or have purchased it from another transcribing agency in the past. If we have not produced the book, and it is an order for a large-print book, we ask for a copy of the book from the school system and we enlarge it using copy machines. And I might point out that that is rather poor quality. We can make a good copy of the text itself, but when you start talking about insets and inserts and graphs and charts in different colors—if any of you have seen a textbook recently, they are all about visual effect; we are the TV generation, and they are meant to really “glow” at the kids, so they are more about visual display than anything else. Those things are very difficult to make a nice copy of.

If the order is for the Braille textbook, we search the American Printing House for the Blind’s national Louis database for the title. If it is not available from another source somewhere else in the country, we will transcribe the book using our staff, or ask one of our volunteers to transcribe the book, or pay someone to transcribe the book.

In point of fact, the volunteerism is really dropping off—I am sure you all are aware of that—and our volunteer corps is much smaller than it was 10 or 15 years ago.

The biology text I have with me today will take approximately 9 months to transcribe. Most transcribers work on several books at one time and regularly provide volumes of Braille to stay ahead of the class syllabus, and that is pretty much what Jessie was referring to. They do take several projects on at one time. They have to do that whether they are getting paid for it and this is their livelihood, or there are just so many books and not enough transcribers, but they work on several, often three or four, at a time.

A book this size, which is actually 1,183 pages, would translate into 4,732 pages in Braille. That is where you get those 30 volumes. The average cost to produce this book into Braille if I were to pay someone to do it or do it with my own staff time would be \$16,562. That would be attributed to the fact that this would be a manual transcription; we would be getting publisher files; somebody would be keying the text into the computer—we do use computers, and there is Braille translation software; we are not back in the old days where we are grinding it out on a Braille-writer, so there are some advantage to using the computer, but it is still a very slow process.

In my State, we purchase probably 250 books from outside sources, we transcribe 100 titles a year in Braille—it is a lot of Braille—we purchase 250 copies and then probably engage 25 outside transcribing agencies and pay them to do books for me.

The good thing is that we reuse those books; it is not an investment that you have made—or, hopefully, you end up reusing the book.

This national practice for producing books in alternative format that I have described is a process that requires everyone in the

chain to do his or her part on time and accurately. One break in the chain, and the books will be late for the beginning of school.

The process for providing textbooks in adapted format is dependent upon many factors which determine if the students receive books on time. Jessie alluded to many of those factors, but let me give you a few more.

If the students are assigned subject areas and classes in time, prior to May—and again, Jessie talked about that—if the school has identified next year's textbooks; if the course is a one-semester course, and it is going to be a first semester one-semester course, that throws everything totally out of whack—we get the order in April, but the whole books needs to be done by September; if the school can provide copies of the textbooks for us to use in production—that is a big thing; if they have just adopted those books at their budget time in June, they probably do not even have a book to give us, so that is always a big challenge and issue; if the book orders are placed by April 30; if there are transcribers available to produce the book in Braille; if the student's schedule does not change when school begins; if a student does not move unexpectedly into the school system—somebody may show up on the first day of school that you were not counting on, a blind student, no book—what do you do? If the books is used in the front-to-back order—and what I mean by that is start with Chapter 1 and go through the book, 1, 2, 3, 4, 5—many teachers do not teach that way anymore. They jump around in the book. So we will start transcribing at Chapter 1 unless somebody tells us otherwise. It could be, depending on the subject, that the teacher is going to start in the middle of the book. If we have not transcribed the middle of the book, that child is pretty much out of luck. And then, last, if the school system is able to provide a syllabus for us.

The process that is promoted within the scope of this legislation is very different from the one that we currently use. It requires far less time, costs less, and will ensure that blind students will receive their textbooks at the same time as other students.

As soon as an order is received for the book, we would search our database. If we do not have it, we would check the national database that this legislation creates to see if the file is listed as available. If it is, we will download the file, print the book in large print, in what will be excellent-quality text, or translate the data using Braille software and emboss the book into Braille, or provide the book in the student's other chosen format, which could be electronic for use with the computer, or audio-digital, or for use with an electronic Braille display or a note-taker, as Jessie alluded to.

If the book is not available, we will request the electronic file from the publisher to be deposited in the center. Once deposited, we will download the file. The cost for my resource center to produce this biology book that you are looking at right now in Braille using this proposed process would be approximately \$785—that is it, compared to \$16,000—and could easily be produced within a week, not 9 months.

If this legislation is passed, 3 years from now, I will not struggle to find a means by which this biology textbook is put into Braille—and that means if it is passed this year—we still have a 3-year get-up, set-up, and be ready for this.

When the student in my State moves to Fairfax from Newport News in the middle of the school year, or when the student is doing so well that she changes classes first semester into an honors class, the books can be available.

On behalf of the members of the Association of Instructional Resource Centers, representing every State in the country, we believe that this legislation offers the single greatest contribution to blind and visually-impaired children's futures. It will ensure that they really do receive the same education as their sighted peers.

Access to information opens doors. This legislation is a door opener. Children's lives will be changed, and we will all be saying: "Mmm-ahh."

[The prepared statement of Ms. McCarthy may be found in additional material.]

Senator DODD. I like that. That is great testimony, Barbara, and very, very helpful.

I probably should have in my opening comments—because there is always an assumption that everybody knows everything about the background and data on these things—I just want to share with the committee—and these numbers, obviously, people sometimes argue with some of them—but when you get into the areas where you start talking about visually blind, visually impaired, and blind, the numbers become a bit like an accordion depending on how you look at all of this.

But I just want to share with the audience what we are talking about here. There are more than one million people in this country who are blind—about 1.1 million is the number that I have. About 75,000 people become blind each year one way or another in this country. Every 7 minutes, someone in America becomes blind or visually-impaired. There are approximately 5.5 million elderly individuals who are visually-impaired, legally blind, or blind. There are approximately 95,000 visually-impaired or blind students in the United States. Is that number right, Barbara? Does that number hold up with you?

Ms. MCCARTHY. Yes.

Senator DODD. Of that number—and this is where I want to raise it, and Marc, if you would, I want you to talk a little bit about this—of those 95,000 students—and obviously, this is not just about students here, and I presume that student number is just elementary and secondary, and does not include higher education and continuing—

Ms. MCCARTHY. That is elementary and secondary.

Senator DODD. So the numbers move up—because obviously, in the 21st century economy, the notion of being a student for 12 years or 16 years is an antiquated student. You are going to have to be a student all your life, or at least all the productive years of your life, if you are going to maintain an active participation in the economy of the country.

Approximately 32 percent of legally blind working-age Americans are employed in this country, which tells you that we obviously have a problem here between education and employment.

Now—and this is the thing I want to drive home—of the 95,000 elementary and secondary age students who are visually-impaired or blind, about 5,500 use Braille—that is the best number I have.

This bill is going to cost about \$1 million a year. You cannot find a bill that talks about \$1 million around here. These numbers do not show up, I promise you. We have spent that already this morning on lights around here, I presume. Actually, it is a little more, because there is some start-up money in this bill. So there is about \$5 million that is available to help the States get going. That money disappears after a few years, and then it is \$1 million. So if you want to use the population of 1.1 million, it is about \$1 per person in order to make this difference that we are talking about.

The issue that is raised—one thing I like about our bill is that we have great flexibility in the bill; Braille is obviously a part of it, but there are other means that can be used—I am wondering why we are not doing a better job of promoting Braille. I had an intern from New Mexico who was blind—or, she was actually visually-impaired; it was a degenerative loss, so it was a growing problem—and she wanted to go to law school and had not learned Braille, so she had to go back and learn Braille, because it would be hard to go through law school under today's circumstances—maybe with later technology you could, or with readers and so forth, but she felt she needed that—she had to go back, and it was far more difficult for her at age 23 or 24 to go back and acquire that skill.

Jessie, how old were you when you learned Braille?

Ms. KIRCHNER. About 5.

Senator DODD. And obviously, the difference learning it at that age as opposed to later—it is much harder.

Marc, as part of the difficulty that more people have not—and I know this is a debate within the community, too, and a longstanding debate, about use and nonuse of Braille—is part of the difficulty for the very reason that we are here, the fact that there have not been the reading materials in Braille, that therefore, the feeling of the necessity to have a Braille skill is not there? Do you get the point I am trying to make? I am not doing it very well. Explain to me why we do not have a greater percentage of the population that reads Braille.

Mr. MAURER. Thank you very much, Senator.

Although there was a considerable debate about the importance of Braille, I think there is a greater consensus about that today than there has ever been in the field of blindness. I believe there is virtually unanimous opinion that Braille is important.

Now, there are not enough teachers, there are not enough books. If you cannot get the books, the teachers do not have any tools to use to teach, and if the teachers do not have students who have the books, they lose the capacity for Braille.

I read Braille every day. If I did not read it for 2 or 3 or 4 years, would I know it? The answer is likely that I would know less of it. But I read it every day, so I have no problem keeping up with it.

If the teacher cannot get the books, and if the student therefore does not use the books, the teacher's skill in Braille, which usually for sighted teachers is taught in college, those teachers are going to use the capacity for it.

So we need this material because we need it for the teachers as well as for the students. A little over 10 percent of students read

Braille, but the statistics—and there is an argument about whose statistics you use, as you pointed out, Senator—but the statistics indicate that for those who have a capacity in Braille, 85 to 90 percent of those people will have good jobs.

Senator DODD. Yes, that was my question in a sense. For law school, I presume, or English literature, and so forth, I can understand where a reader or some audio equipment would be fine. I cannot imagine in a math class how you could possibly get along, or a science class where you need to be looking at graphs and charts and so forth—how you could explain orally to someone a graph or a chart.

Jessie, am I making any sense with this? Share with us your thoughts—if you have Braille skill as opposed to not having it, how limited is your curricula, your academic reach?

Ms. KIRCHNER. It is definitely preferable to have Braille, as I have stated, although I did use my biology book on tape last year, but I was not so dependent on the graphs and charts; we did not have to focus on them. If we did, I had my transcriber produce them in a format I could feel tactility, or I asked my teacher about them. But it is definitely preferable. The fact that I hear there is a growing trend in some areas of literacy or at least people being less willing to learn Braille as a medium of learning is quite disturbing, as I find Braille the most useful medium for educational purposes. If I have to order tape, I do it, but I always prefer to use Braille because, as I stated earlier, tapes are very impractical, and just finding the right one is a chore. So it is disturbing if people are less willing to learn Braille. It will always be extremely important, especially, as you have stated, for science and math courses.

Senator DODD. So if there are parents out there with a newborn child, your recommendation is when the appropriate time arrives, if at all possible, have that child learn the Braille?

Ms. KIRCHNER. Definitely, if their degree of vision is sufficiently—

Senator DODD. Yes. I want to get back to some of the things we are going to do with this, but it occurs to me that one of the side benefits of this, if we agree with the point that Jessie has just made that, everything else being equal under the circumstances, we really should be encouraging the skill in Braille, that one of the benefits of this bill will be to promote the teaching and the learning of Braille and that that could have the effective, given your numbers, Marc—if my numbers are correct that 32 percent is the level of employment, and if we are talking about 85 percent with people who have Braille skills, it seems to me that one of the benefits of this will be to promote Braille as a technology or as a skill. Is that a fair assumption that I can make if this bill becomes law?

Mr. MAURER. Very fair, Senator, and it will also promote employment and all kinds of independent opportunities for blind people because of the results of employment.

Senator DODD. Pat, I wonder if you could explain to us why the process takes so long. Barbara and Jessie have talked about when you have to make the request and so forth, but it might be helpful just as a practical matter—very few people understand the publishing business—to explain why it does take so long.

Ms. SCHROEDER. Well, we have these things called "formats," and here we go through a journey of formats, but the 26 different States that ask for these, many of them ask for different electronic formats. So for the publisher, you are producing the book one way, but then you are required to do an electronic format, but then you may have to do it in several other different kinds of electronic formats for the others that are around.

But probably none of these is as sophisticated as we would like. No one could do a better job than Barbara did explaining how time-intensive and labor-intensive it is to even take these formats and transfer them, and some are more sophisticated than others, as I understand—Barbara is nodding, so I hope I am not on the wrong format road——

Senator DODD. Please jump in, Barbara.

Ms. SCHROEDER. But one of the good things about this, Senator, is that on a parallel track going at the very same time, in the year 2000, this collaborative national effort began with publishers and Braille experts and Braille software developers and everything else, trying to find a format that is going to expedite this process, I believe.

Obviously, we cannot say if this bill passes that that would be the format that would be agreed upon, but the very good news is that a lot of spade work has been done trying to see if there is not a format that makes Barbara's task much easier and that makes everyone's task much easier—and I assume it is the software doing a lot more of the work that the individual now does, and that is why she is saying you could do the biology book in a much shorter period of time.

Now, Barbara, did I translate that correct?

Ms. MCCARTHY. You did a very good job. I do not need to say much more than that, but I think one thing to point out is the fact that this new software that publishers will be using is going to be something that we can use to produce many different formats. We have talked about that, and Braille is one of them. This is an amazing piece of technology if you think about it, and the development is well under way for this, but it is going to allow us to basically take from one source and be able to produce digital audio if that is what the student prefers or we need it for some particular reason, be able to produce hard-copy Braille. We can also use the material electronically on a computer with a speech synthesizer—in other words, a screen reader—if the individual prefers to listen to the material on the computer; it is certainly a lot more compact that way. And then, last of all is the ability to be able to use a Braille note-taker or a Braille display, which is just an electronic Braille device. It would be no different from a sighted person using a computer, and you can just basically scroll through the text that way.

So this is a very flexible technology that we are talking about, and in terms of why the reduced time, well, all of the text will be entered already, so all that I have to do is take the text, translate it, and I can do what I want with it.

Senator DODD. You anticipated my next question in a sense. What we have tried to do with our bill is to anticipate the tremendous changes that we cannot even imagine that will occur in the

coming years. I read the other day that video stores will no longer sell the stuff—they are into the DVD. It drives me crazy. The wonderful days of having one piece of technology that you knew would work for the rest of your life are now gone. Now you go out to buy something, and the temptation is to wait a couple of years because something else is going to come out that will change all that.

So the good news here is that what we are trying to create—and I think you have said it well—is the great flexibility and change through technology that can come that will be able to accommodate those kinds of opportunities that do not exist today. That is really the key thing, and that is very, very helpful.

And that was my second question to you, Pat, as well, and you have covered that ground.

Ms. SCHROEDER. Absolutely.

Senator DODD. Jessie, I am sitting here trying to imagine, knowing how well you are doing in class, but I am trying to envision myself how you were able to complete your assignments and study for exams without a textbook. Is there some secret I should have known? [Laughter.] How did you do that?

Ms. KIRCHNER. Internet is definitely a Godsend. I have been fortunate to have had a textbook the majority of the time. Geometry freshman year, I was fortunate to have had a very understanding teacher who was able to get supplemental worksheets to my transcriber in sufficient time for me to do those book exercises, and then, if I still did not understand after not having read the lesson in the book, I would just ask my teacher for extra assistance after school. I actually did very well in the course.

As far as history, for the couple times I did not have the required text, I would explain that to my teacher, and we would work things out, whether it would be taking the quiz a day later so that I could scan my 40 pages or so into the computer and read them aloud with my screen reader, or there are notes available for the particular textbook that I could use as well.

I generally have not had problems overall and have been very lucky in that. But I have known people who have had a very, very difficult time without a textbook.

Senator DODD. Again, you have been over some of this, but choosing one format over another and the type of technology necessary, can you give me some idea, Jessie, how you do choose one format over another? I know you prefer the Braille, but obviously, there are times when it is not available or there may actually be another format. Are there times when another format is actually preferable to you?

Ms. KIRCHNER. As I mentioned, electronic format is ultimately the best in that besides having the Braille in front of you—Braille overall is preferable to tape just because you like to see the words in front of you, particularly if you have difficult vocabulary words that you do not know how to spell, you like to see those in front of you—and the electronic format with the Braille supersedes the hard copy, because you can go through it very fast. You have the capability that anyone has with any personal computer. You can scroll through and find different paragraphs, you can bookmark different chapters if you need to, you can quickly jump through pages upon pages. I have not had to order a hard copy of an English

novel for I do not know how many months just because I have been fortunate to have been able to download a lot of them from the Web. So that has been great, because I can just put them on my note-taker, and she says "Jump to Chapter 3," and I just do the global find command and type in "Jump to Chapter 3," and it's great, especially for group work, when you have to go looking for quotations to support a certain theme. So generally, electronic format is the best, and it is really exciting that this bill is going to promote such a format as well as Braille, because those are the two primary formats that are preferable.

Senator DODD. That is very, very exciting.

Ms. MCCARTHY. Could I just add one thing to what Jessie said with regard to how you select which format?

Senator DODD. Yes.

Ms. MCCARTHY. One of the things that we know is that if you are learning a foreign language, you really have to have that in Braille. You can learn to speak a foreign language with the tape or electronically, but unless you can actually see the words, if you will, there is no way that you are going to become fluent in a foreign language. And we have already talked about the math. But that just brings up the importance of why the ability to have that hard copy for some things. And you were very astute, Senator Dodd, to mention that. There will always be a need for Braille.

Senator DODD. Now, Jessie, on the process that you presently go through, or the people like yourself in schools around the country, what is the present process that you go through to get a textbook so that you can read? What happens? You described that March is when you do it, but what is the process involved today? Is there are a central location like Virginia's Library and Resource Center, or how does it work?

Ms. KIRCHNER. There are certain resources that you continually generally refer to when searching for a textbook. In terms of books, in terms of math textbooks, we have a similar agency in Connecticut that does that kind of thing. I have a State teacher for the visually-impaired with whom I work to make sure that I have the books I need, and she makes sure in March that—for instance, this year, we know that I am taking calculus, we hope I qualify for calculus, fortunately, I did, so we decide in March that I am going to qualify for calculus and that I will need the book. Then, she goes to our equivalent of the resource center and asks if they have it available. In this case, they already did. We still had to pay a substantial sum just to buy the book, I think, or at least to borrow it. But in some cases like last year, the book actually had to be Brailled, and that would cost even more, and as I said, the volumes would start trickling in by September, and you would hope that you would get the right ones as you needed them.

As far as other books that depend less heavily on symbols and diagrams, like English literature books, they are usually available on tape or from another library, and you just have to know which libraries to contact. Recording for the Blind is a big one, and the National Library Service for the Blind here in DC. is actually a primary resource for such books. So I have learned to use those resources primarily by myself.

Senator DODD. Do you ever contact the publisher directly?

Ms. KIRCHNER. No, I have not had to do that just because I did not know they had any direct involvement with that kind of thing—but you will, apparently, through this legislation.

Senator DODD. Yes, Pat?

Ms. SCHROEDER. If I might, Senator, one of the things that I think is confusing here is like when you heard that it took \$2,000, that \$2,000 is not paid to the publisher. the publisher creates the electronic file, and they create lots of different forms of electronic files depending on the State or the region and what they are requesting. But then, converting that file to Braille or whatever it is, either they do it with volunteers, as Barbara has explained, or you have to pay, or somehow, and that becomes a huge additional cost.

So that is why this is so chaotic and spread out, and that is why this bill just makes a huge amount of sense, because the publishers will all create one form of electronic file, and hopefully it is going to be this new advanced technology they are all working on now, to try to put it together so it will be much cheaper, then, to produce and get the materials out.

So the reason why you would probably not contact the publisher directly at the moment is that you would get the file, and then, what are you going to do with the file? You have got to convert it to the next format.

Senator DODD. OK.

Mr. MAURER. Senator, Jessie mentioned a moment ago a note-taker. This is one, this device here, and as you observe it, it has keys on it to let you get at the files in the device and also to move it around. It is called a "Braille light," and this is a Braille display. It brings up the information which is stored in here. There are many megabytes of information that can be put into it; several books can be stored in this small—it can be easily put into a briefcase and carried—and it makes the information available either auditorially or in Braille.

Part of what this bill will do is provide a file which is formatted in such a way—not all of them will work with this—that these note-takers—this is one version of it and a good version—can use the material from the textbook publishers and provide it into the hands of the students.

Senator DODD. That is incredible. Who makes that piece of equipment?

Mr. MAURER. This one is produced by Freedom Scientific, which is a company out of Florida.

Senator DODD. Very good.

Barbara, how much time again from the time the teacher changes the textbook is the present situation for your center before you can get something in Braille or electronic format?

Ms. MCCARTHY. That really is dependent upon what time of year the material is ordered. If the material is being ordered now, and this is the end of June, for the beginning of the school year, which for many school systems is August, sometime in August—that is less than 2 months—we may be able to get a piece of the beginning of the book to the student. One thing that we keep talking about is the fact that the students are getting parts of the book. They are not getting the entire book. They are not getting Chapters 1 through 15 all at one time. They are trickling in as they are com-

pleted by the transcribers. But in reality, if you had one person sit down and do nothing else but transcribe Jessie's calculus book—no other books; that was their main job—I say, “I am going to pay you to Braille this book until it is done; how long would that take?”—aside from the fact that that person would probably lose his or her mind, because it is very tedious to do this hour after hour, it probably could be done in 3 months from start to finish, and that is a real guesstimate, because we rarely do books that way.

On the other hand, if, during the end of the first semester of the school year, a teacher orders a book for the second semester for the student, we have more transcribers available to us that time of year—they are finishing up some of the work that they have started—and we may be able to get somebody to transcribe something rather quickly at that time of year. It is really contingent on so many factors, and that is the big problem. It is not really straightforward at all. It depends on when and what and who.

Senator DODD. And Murphy's law probably applies.

Ms. MCCARTHY. And Murphy's law, absolutely.

Senator DODD. Anything that can go wrong will go wrong.

Ms. MCCARTHY. No question.

Senator DODD. Well, this has been excellent testimony. I cannot thank all of you enough. I am going to leave the record open for a few days because we have staff here for other members who may have some additional questions that I did not think of to raise with you. So we will leave the record open to respond.

I have a long list of organizations that I will not read, but suffice it to say there are about 25 or 30 here, various groups, various State and national organizations, who are supporting this legislation, and I think your testimony today is going to substantially enhance our opportunities.

We are talking about a very small commitment financially that can make a huge difference, as I have heard you, not just today but for many, many years to come, where we can really break down some barriers and, as you properly said, Barbara, open some doors that need not remain closed, not in this day and age with the technology that is available.

So I am going to be eternally grateful to all of you and very, very grateful for your work.

And I cannot resist repeating again to you, Pat, and to the American Association of Publishers, that without your support, we really would not be able to do this. Everyone deserves support. Jessie, having listened to a bunch of adults talk about this is fine, but actually hearing from a student how it work, I cannot tell you what a difference you have made by being here today. You represent almost 100,000 students, and in fact, as I said earlier, everyone is a student now and will be, but you have done a great job of explaining the value of this particular effort and what a difference it can make. And I think all of us are deeply proud of the fact that even under the present system which is cumbersome, to put it mildly, how well you have done and what a source of pride you must be to your parents and teachers and others. So we commend you for your terrific work.

Marc, you are always such a champion, and we thank you.

Barbara, I am so impressed with what you have done in Virginia. How lucky the people of Virginia are to have you in their camp, fighting for them.

So I am very grateful to all of you, and I just need you now to ring the bells of some of my colleagues around here. This is what I would call a slam-dunk. We can have huge arguments around here about matters that are very difficult to resolve—this is not one of them, or should not be. So I am very, very hopeful that in the coming days here on this committee, with Thad Cochran, who has been a great help and has been terrific on these kinds of issues—we have worked so closely on them over the years, along with the efforts to Tom Petri and George Miller in the House—that we will be able to get something done here before the calendar of the legislative year is completed.

With that, I thank all of you for being here and look forward to your continuing involvement.

This committee will stand adjourned until further call of the chair.

[Additional material follows.]

ADDITIONAL MATERIAL

PREPARED STATEMENT OF PATRICIA SCHROEDER

Mr. Chairman and Members of the Subcommittee, I want to thank you for inviting me to appear here today on behalf of the Association of American Publishers ("AAP") to discuss S.2246, the proposed "Instructional Materials Accessibility Act of 2002" ("IMAA"), and to briefly explain the perspective of book publishers regarding the issue of ensuring that elementary and secondary school students who are blind or have other print disabilities get timely access to instructional materials in the specialized formats they need.

AAP is the national trade association for the U.S. book and journal publishing industry, representing some 300 commercial and nonprofit companies and organizations that publish literary works in virtually every area of human interest. Most of the major book publishers in the U.S. are AAP members, including the Nation's leading educational publishers, who produce textbooks and other instructional materials for all grade levels.

PUBLISHERS SUPPORT PASSAGE OF THE IMAA

Imagine that, at the beginning of the school year, each student in the class except your child has received their textbooks. Further imagine that your child won't receive his or her textbooks for two, four, or even six months after everyone else, or quite possibly won't receive them at all.

This is the reality that thousands of blind or print-disabled students must deal with every year, as they are forced to wait for copies of the textbooks in Braille or in other specialized formats that these students are able to use.

But the IMAA is intended to make sure that blind or print-disabled students receive their textbooks in timely fashion, including those who need them in specialized formats suitable for users who are blind or have other print disabilities. AAP applauds Senators Dodd and Cochran for their leadership in introducing this legislation.

The IMAA would significantly improve access for blind students, and other students with print disabilities, to print instructional materials used in elementary and secondary schools, by creating a coordinated and efficient system for acquiring and distributing such materials in the form of electronic files suitable for timely conversion into a variety of specialized formats.

Converting print textbooks into Braille and other specialized formats is a complex process that sometimes takes months to complete. Depending on the length and complexity of the textbook, it can take a publisher as long as three months to produce an electronic file of the instructional material suitable for conversion into specialized formats. It can take another four to nine months for those engaged in the conversion process to convert those files to Braille or other specialized formats, proof the work, and then produce it in the final form used by students. One of the biggest benefits of the IMAA will be the establishment of a system that hopefully will speed up the process of converting textbooks into specialized formats, so that blind or print-disabled students receive their textbooks at the same time as their sighted classmates.

AAP SUPPORTS CREATION OF A NATIONAL ELECTRONIC FILE FORMAT FOR INSTRUCTIONAL MATERIALS

Currently, twenty-six states have laws requiring publishers to provide state or local education agencies with electronic files suitable for converting print instructional materials into Braille versions. Depending upon which states use a particular textbook and what requirements each state has enacted, publishers may be required to produce a conversion file in as many as six different file formats (i.e., HTML, SGML, ICADD22, Microsoft Word, RTF and ASCII), with ASCII being the one most commonly-required.

Unfortunately, the file formats actually used by publishers to produce textbooks and other print instructional materials are far more complex than any of the state required formats and generally unsuitable for use in conversion to specialized formats. This means that publishers must track and comply with diverse state laws, and go through an expensive, time-consuming process to convert their publishing files into formats that are of no use to their publishing operations. "Worse yet, the state-required formats—especially ASCII—are not even well-suited for efficient specialized-format conversion and typically require Braille transcribers to spend many hours manually "tagging" or re-formatting the publisher-provided files before they can be used with conversion software. As a result, publishers spend a substantial

amount of time and money to comply with the state requirements, but the resulting Braille textbooks often don't arrive for timely use by the blind or print-disabled student.

The proposed rulemaking under IMAA for producing a "national electronic file format" for use in the conversion process is not intended to lock-in any particular technology product, but instead is expected to result in the adoption of an XML-based format of the kind that publishers are evolving toward with their nascent "ebook" products and that the Library of Congress is already developing for the next generation of digital talking books. The purpose of the rulemaking is to eventually make it easier for everyone—State and local education agencies, publishers, Braille software developers, and Braille transcribers—to work with the conversion file by facilitating a transition process toward an optimal format for everyone involved in its use.

A file format that is more highly structured than ASCII will require far less manual intervention to convert to specialized formats. Publishers won't have to convert their materials to several different file formats and Braille software developers won't need to spend countless hours manipulating many different types of files. Braille specialists will then have the time to use their unique expertise in formatting and proofing files, so that high-quality Braille will be the end result. Students will benefit because the national file format will eliminate needless steps in scanning and reformatting files and the student will receive his, her book faster.

Efforts are well underway to develop an optimal file format for use with assistive technology. In 2000, a collaborative national effort, the Joint Technology Task Force ("JTTF") was created. Consisting of publishers, Braille experts, Braille software developers and other technology experts in the visually-impaired community, the purpose of the JTTF is to facilitate the testing and use of technologies for converting publisher's electronic files to the optimal format and the utilization of those files so that students will receive textbooks at the same time as their sighted peers. It is believed the optimal format will be the ANSI/NISO Z39.86-2002 standard Specifications for the Digital Talking Book. This standard was ratified by the National Information Standards Organization (NISO) and approved by the American National Standards Institute (ANSI) on March 6, 2002. Two of the JTTF's main goals are to analyze the ANSI NISO file format to determine its suitability for converting textbook content into Braille and other specialized formats, and to promote and demonstrate to producers of accessible books the efficiency and benefits of using publisher files in the ANSI, NISO format.

AAP SUPPORTS ESTABLISHING A NATIONAL REPOSITORY FOR ELECTRONIC FILES USED IN CONVERSION

The current system of providing the electronic files to twenty-six states with diverse file format and other legal requirements is an expensive and cumbersome process for publishers. Publishers put a great deal of time, effort, and money into developing the necessary business plans to make the intermediary publishing file available in the format a state requires. For some smaller publishers, the costs and burdens entailed in this process may, as a practical matter, prohibit them from competing for textbook adoption in some markets. Having a "one-stop" national repository to which they would submit the files for availability to any state or local education agency that requires them would greatly ease the compliance burden for publishers, eliminate substantial duplication of effort, and result in more students having quicker access to instructional materials in the specialized formats they need.

The IMAA would provide for the establishment of a National Instructional Materials Access Center to serve as a "one-stop" central repository for the publisher-provided electronic files in order to make the files more efficiently available to those responsible for using them to convert print instructional materials into Braille and other specialized formats. The Access Center would not directly engage in the conversion process, but would be responsible for coordinating the acquisition and distribution of electronic files of core instructional materials for conversion. The Access Center would also develop and administer procedures for ensuring the technical quality of the submitted files and securely maintaining them.

AAP SUPPORTS STATEWIDE PLANS AND CAPACITY GRANTS TO ENSURE THAT BLIND OR PRINT-DISABLED STUDENTS OBTAIN TIMELY ACCESS TO INSTRUCTIONAL MATERIALS IN SPECIALIZED FORMATS

Blind and print disabled students live in every state, not just in the twenty-six states with Braille laws. Even with a state law, publishers understand that some states don't have the funds to provide materials in specialized formats for their students. That is why capacity-building grants would be provided under the IMMA.

These grants would be used to help states facilitate the timely conversion of publisher-provided electronic files into Braille or other specialized formats, upgrade conversion-related software and hardware, and obtain training for those engaged in the conversion process.

CONCLUSION

Publishers and representatives from national blind advocacy organizations have been working over a period of several years to develop a mutually agreeable and practical solution to the problem of blind students receiving their textbooks on time, and we all strongly support the IMAA. Providing a "level playing field" for blind and print-disabled students by giving them access to instructional materials will open up many new opportunities for those individuals.

PREPARED STATEMENT OF JESSIE KIRCHNER

Mr. Chairman and other Members of the Committee: My name is Jessie Kirchner, and I live at 45 Dromara Road in Guilford, Connecticut. This fall, I will be entering my senior year at Guilford High School. I am a Braille reader and am speaking in support of S.2246, the Instructional Materials Accessibility Act: Making Instructional Materials Available to All Students.

First, let me thank you for the opportunity and the privilege to speak to you today about such important legislation. In addition, I want to especially thank my senator, Senator Dodd, for introducing this bill and for his commitment to moving it forward. Hopefully, I can give you an idea of how the current system works from a student's perspective, so that you can understand what a positive impact this bill will have on visually impaired students across the country.

Since the Instructional Materials Accessibility Act was introduced in April of this year, I have thought a lot about how this bill will improve the situation for blind and visually impaired students. I have spoken to many students about this bill, and will attend the National Federation of the Blind Convention in early July, where I expect to speak with many more. Because I will graduate high school before the provisions of this bill take effect, it will not directly benefit me. Nevertheless, on behalf of blind students who follow me, I strongly urge passage of the Instructional Materials Accessibility Act this year.

Equal access to education for all students requires equal access to textbooks. Unfortunately, many blind and visually impaired students sit in classrooms without books, while their sighted peers, books in hand, are able to follow along with the daily lesson. Even with the best planning, Braille textbooks frequently do not arrive when needed, if at all.

Braille books required for the school year beginning in September must be ordered by March of the previous school year. Thus, planning begins in February, when we must determine which courses we expect to take. Next, a list of required textbooks is requested from next year's teachers. We determine which books are not already available in Braille or on tape, and order them in Braille. A single Braille textbook may consist of over 30 volumes and may take months to produce. Ordering books in March should allow volumes to start arriving by the beginning of the next school year.

The process sounds simple, but in reality it is not! First, course descriptions for the next school year are not normally available until after March, and course scheduling is done even later. We must start the process ahead of everyone else, and may find out after ordering our books that we have schedule conflicts. For instance, this year I will be unable to take Wind Ensemble because another course I would like to take, Western Civilization, is being offered during the same period. Adding Physics in place of Wind Ensemble may mean not getting a physics textbook in time.

Sometimes the schedule conflict requires completing a course during the first semester in a double period rather than over the entire year in a single period. This happened to me freshman year. My geometry book was typed in Braille and volumes sent as they were completed. However, they continually arrived too late, as the typist could not keep up with the class pace!

Secondly, some courses are available to students only if they qualify for them on the basis of a sufficiently high grade in the prerequisite course. For example, I took pre-calculus this past year and needed a minimum of a B average to take calculus next year. However, I could not wait for my final grade before having to order my calculus book in March, at a cost of \$2,000. If I do not take calculus, my school will have spent \$2,000 for nothing, and I still will not have a math textbook to use in September!

Thirdly, town budgets are passed (at least in our town) in June. If requests for new textbooks are approved, the books are purchased over the summer and arrive

by September—all except the Braille versions. I know someone personally who experienced this. By September, he had a math book in Braille, but it was the wrong one. The new one had been quickly ordered but could not be produced in time. The volumes kept arriving after the material had already been covered. The student's grades and self-esteem suffered greatly. Sadly, he felt like he was the problem since no one else in class was complaining.

Fourthly, some Braille textbooks are not available in time because there are only a limited number of competent Braille typists. Braille typists must know the various Braille codes. For example, math is typed in Nemeth code, standard English in literal code, and science text in scientific code. If a good typist gets an order for three books at once, he or she might not be able to finish them all on schedule.

Fifthly, books on tape are wonderful, but in general, textbooks in Braille are preferable. Textbooks are ordered on tape if they are available when a Braille copy is not. However, turning to the same page the teacher is on in class is impractical with tapes. Going back and looking up quotes and other facts is difficult. In addition, tapes can be defective. This happened to me this past year. By the time I discovered that two tapes of my history book were blank, it was too late to order new ones. The homework had to be done. Each night I scanned pages from a printed copy into my computer before I could start my homework. My sighted peers probably had much of their homework done in the time it took me just to scan the text!

Lastly, without a textbook in class, we often have to rely on friends, an aide, or parents to read materials to us when we are very capable of reading them ourselves. We don't like to take our friends' time, because they have their own work to do!

Passing this bill will solve the problems I have discussed and make Braille textbooks available at the same time as printed textbooks are available for my sighted peers. Furthermore the fact that books will be available electronically will allow the option of downloading them into a Braille word processor or laptop computer. Although Braille hard copies of textbooks are preferable to tapes, they are bulky and difficult to carry. The new electronic format will give students the choice of obtaining their Braille textbook as a hard copy or reading it in Braille from a Braille word processor. The latter facilitates portability and allows us to access information more quickly and easily. Overall, our attention and time will be more appropriately focused on learning rather than on getting the information. Significant time will be saved and much stress will be eliminated from our already busy daily schedules.

Again, thank you Senator Dodd for your leadership with this critical legislation, and thank you Mr. Chairman for calling this hearing. Having a textbook in class like everyone else should be a right, not a privilege. To move us closer to this point, passage of the Instructional Materials Accessibility Act is essential.

PREPARED STATEMENT OF MARC MAURER

Mr. Chairman. I am Dr. Marc Maurer, President of the National Federation of the Blind. My address is 1800 Johnson Street, Baltimore Maryland, 21230. Thank you Mr. Chairman for calling this hearing. It is a privilege to appear before the Senate Committee on Health, Education, Labor, and Pensions to discuss an issue of such paramount importance for the blind as the timely availability of books in school. I urge Congress to pass the Instructional Materials Accessibility Act. S.2246, this year and I would like to tell you why this should be done.

The National Federation of the Blind (NFB) is the largest organization of blind people in the world. We have more than fifty thousand members composing approximately six hundred chapters in every state, the District of Columbia; and Puerto Rico. Like myself, all of our leaders and the vast majority of our members are blind.

As we say in our monthly publication, The Braille Monitor, the NFB is not an organization speaking for the blind, it is the blind speaking for themselves. This best describes the purpose of the Federation, serving as the voice of the nation's blind. When we do this, as in the present case, the positions we take are reached through discussion, debate, and votes by our members and leaders across the country.

Today we have come to discuss the Instructional Materials Accessibility Act, S.2246. This bill will provide books to blind elementary and high school students in America's schools at the same time the print editions are provided to sighted students, and in formats, including Braille, that our blind children require to succeed. Today, it is often the case that blind students receive their books far too late in the school year, or receive the portions they need after the need for them has passed. School districts often find it difficult to know where to turn in order to get a book converted to Braille. Converting printed instructional materials into "specialized formats" such as Braille is often time-consuming, labor-intensive, and costly, taking six or more months and several thousand dollars to complete.

In the mid-nineteenth century, states established centralized schools for the blind to educate blind and visually impaired students. To support this, Congress authorized the American Printing House for the Blind (APH) in Louisville, Kentucky, to produce educational materials in alternative formats, including Braille. Today AHP continues to fulfill this function, receiving annual appropriations for this purpose.

In the 1960's blind children first began to attend schools in their home communities in significant numbers, and today the vast majority do so. As a result, Braille, audio, and large print books must be obtained or created by any local school district having one or more blind children.

The Americans with Disabilities Act, the Individuals with Disabilities Education Act, and other federal laws clearly establish the policy that individuals with disabilities are entitled to equal treatment in all areas of society. However, the successful implementation of these laws cannot occur without clear, specific, and practical standards and systems in place to anticipate accessibility needs. Currently, there are no federal laws that create standards to facilitate the production of textbooks in Braille.

Approximately half of the states have responded to this need by requiring publishers to provide electronic copies of print editions of textbooks. However, there is no consistent file format used among the states, and the electronic copies provided by publishers are frequently not usable for

Braille reproduction at all. Therefore, inconsistent and often conflicting state requirements place burdensome obligations on publishers without efficiently facilitating more timely production of books in accessible formats. An agreed-upon, uniform electronic file format would reduce the burden to publishers and significantly reduce the cost of creating the books, while helping to provide materials to blind students at the same time they are provided to others.

This brings me to the bill before you today which we see as an important solution to the problems just described. The purpose of the Instructional Materials Accessibility Act is to improve the access of blind elementary and high school students to printed textbooks. This will be achieved by creating a coordinated, efficient system for the distribution of electronic files suitable for conversion to many formats, including Braille.

The principal benefit of this legislation will be a uniform electronic file format. The process to develop this format is set forth in section 3 of the bill. A uniform format will allow rapid creation of textbooks for each student, sighted or blind. For students who read Braille, their books can be presented through the use of synthetic speech or stored and read with small computers, which display Braille dots.

Without this legislation, local school districts will continue to bear the burden and cost of converting printed books into Braille. However, modern technology can now support shifting much of this responsibility to publishers without placing an undue burden on them. This legislation does not remove the school's responsibility to provide materials but will institute a shared burden between the schools that teach the children and the publishers that create the books. This will be the effect of having a uniform electronic file format and national distribution center. Provisions describing the Center are set forth in section 5 of the bill.

This shared obligation between school and publisher has been carefully crafted with publishers fully engaged in the effort to create it. Concerning the process, Mr. Chairman, we started to develop the bill now before you over two years ago. All affected groups, including the Association of American Publishers, personnel from state education agencies, producers of Braille and audio textbooks, and representatives of the blind, including parents and students, were at the table to discuss and negotiate every sentence. This effort involved pain-staking deliberations and an uncounted number of drafts, spanning a period of 15 months.

Then, on June 27, 2001, the consensus now expressed in S.2246, introduced by Senator Dodd, was reached. The real breakthrough here is that publishers have agreed to prepare an electronic version of each textbook sold to any school district anywhere in the United States and to make this text available to all other school districts through a national distribution center.

The text will be prepared by the publisher at no expense to schools or government agencies. The Association of American Publishers and its president, former Congresswoman Pat Schroeder, deserve high praise for reaching this historic agreement on behalf of their members. Through their efforts each blind child in America will have a better chance to receive an education of high quality.

Concerning cost, Mr. Chairman, operation of the national distribution center will be a continuing federal expense. Experts who know about book production for the blind have estimated the annual cost to be approximately \$1 million. The other cost, authorized in the bill at \$5 million for the first year and such sums thereafter, will be for technical assistance grants for state and local education agencies. These funds

are needed to help them ramp-up and learn how to use the new electronic files with maximum efficiency.

To sum up, Mr. Chairman, S.2246 gives the Congress a unique opportunity to improve educational services for blind children. Senator Dodd's leadership and personal interest in sponsoring and moving this bill forward are particularly important to its progress. On behalf of all blind people in America. I thank you.

PREPARED STATEMENT OF BARBARA N. MCCARTHY

Mr. Chairman, Members of the Committee, and staff; Thank you for inviting me to speak to you today. What I am about to tell you, and the purpose of this legislation, have not been a Senate priority; there are great economic and international issues before you. What I am going to tell you about, however, is the priority within the community of blind and visually impaired people, and the professionals who work with them. Technology has opened many opportunities to provide all of us with access to information. This is a matter of allowing technology to provide access to information. Technology offers the potential to provide the materials that all students, including those who are blind and visually impaired, must have in order to receive an equal and quality education. Ultimately, technology will allow for lower materials costs, faster delivery, and better student performance.

If I could have called this hearing—I would have invited you to Richmond, to see what we do at the Library and Resource Center this time of year. In fact, today, if you were to visit any one of the materials centers that are located in forty-five (45) states, you would see similar activity. At the Library and Resource Center in Richmond, we provide Braille and large print textbooks to all Virginia students who are blind and visually impaired, about 550 students. We loan textbooks for the school year. At the end of every academic year, the books are returned—and made available to be loaned to another student for the next school year. This time of the year we are busy producing braille and large print textbooks for the next school year. Most books have already been ordered, and will likely be ready when school begins. However, last week I received orders for 5 books to be produced in Braille: 2 Algebra, a calculus, a geometry, and a biology book. June is late in the process to receive orders for Braille books. I was able to find people to produce the math books, but the books will not be ready when school starts. I have not been able to locate someone who can produce this biology book. But regardless of when I received the book order, there is a student who needs the book in Braille, and will suffer without it when school starts.

Orders for textbooks for the next school year should be received no later than April 30. Any order received after that is at risk for not being ready when school begins. When the order is received, we search our own database, to see if we have either produced the book ourselves, or purchased the book from another transcribing agency. If we have not produced the book, and it is an order for large print, we ask for a copy of the book from the school system, and enlarge it using copy machines.

If the order is for a Braille textbook, we search the American Printing House for the Blind's national Louis database, for the title. If it is not available from another source, we will transcribe the book using our staff, ask one of our volunteers to transcribe the book, or pay someone to transcribe the book. A book the size of the biology text I have with me today will take approximately 9 months to transcribe. Most transcribers work on several books at one time—and regularly provide volumes of Braille to stay ahead of the class syllabus. A book this size—1,183 pages—would translate into 4,732 pages in braille. The average cost to produce this into Braille book would be: \$16,562.

This national practice for producing books in alternative format that I have described is a process that requires everyone in the chain to do their part, on time, and accurately. One break in the chain, and the books will be late for the beginning of school. The process for providing textbooks in adapted format is dependent upon many factors, which determine if students receives books on time. Some of those factors are:

- If students are assigned subject areas and classes for the next school year, prior to May

- If the school has identified next year's textbooks

- If the school can provide copies of the textbooks for us to use in production

- If the book orders are placed by April 30

- If there are transcribers available to produce the book in Braille

- If students' schedules don't change when school begins

- If students don't move into a different school system unexpectedly

The process that is promoted within the scope of this legislation is very different from the one we currently use. It requires far less time, costs less, and will ensure

that blind students will receive their textbooks at the same time as other students. As soon as an order is received for the book, we would search our database. If we don't have it, we would check the national database, that this legislation creates, to see if the file is listed as available. If it is, we will download the file, print the book in large print or translate the data using braille software, and provide the book in the student's chosen format (visual electronic, large print, digital audio, or for use with an electronic braille display). If the book isn't available, we will request the electronic file from the publisher, to be deposited in the center. Once deposited, we will download the file. The cost for my Resource Center to produce this biology book in Braille, using this proposed process, would be approximately \$785, and it could easily be produced within a week.

If this legislation is passed, three (3) years from now I will not struggle to find a means by which this biology textbook is put into Braille. When the student moves to Fairfax from Newport News in the middle of the school year, or when the student is doing so well that she changes classes first semester into an honors class, the books can be available.

On behalf of the members of the Association of Instructional Resource Centers for the Visually Impaired—representing every state in the country, we believe that this legislation offers the single greatest contribution to blind and visually impaired children's futures. It will ensure they really do receive the same education as their sighted peers. Access to information opens doors. This legislation is a door opener. Children's lives will be changed.

[Whereupon, at 11:15 a.m., the committee was adjourned.]

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