Guidelines & Procedures for Using the Surveys of Enacted Curriculum

This guide provides basic information on the steps and procedures necessary to collect, analyze and report information on classroom practice, or 'the enacted curriculum'. It is aimed towards individuals with limited experience with data collection, analysis and reporting experience, who nonetheless wish to utilize the SEC tools. While the procedures identified here are essentially the same, whether implemented at the school, district, or state level, the focus of this discussion will center on school-level collection, analysis and report of SEC data. The guide is divided into five sections:

- Introduction to the SEC Toolbox
- Data Collection and Survey Administration
- Data Entry and Data Integrity
- Data Preparation for Analysis
- Data Analysis & Reporting

I. Introduction to the SEC Toolbox

Typical Applications of SEC data

The Surveys of Enacted Curriculum have a number of practical and important uses for educators and leaders at all levels of the educational system:

Comparing Instruction in One Classroom or School to Another--Teachers report on their instructional practices and the content of instruction over the course of a school year. With common, structured questions and standard methods of summarizing data, teachers can gain a picture of their instruction in relation to others in their school or teaching in other schools in their district or state.

Interpreting Student Assessment Results--The subject content data reported by teachers can be analyzed with the student assessment results to determine strengths and weaknesses in curriculum and teaching strategies. The assessment items or whole tests can also be compared to teacher reports of instruction.

Evaluation of Professional Development--The Surveys include questions on the amount, types, and quality of professional development received by teachers (based on research). Professional Development needs, and the effects of Professional Development can be evaluated using the data on instructional practices.

Aligning Curriculum with Standards--Survey data are reported by broad topic categories matched to the standards and by specific item profiles and teacher expectations that match to the benchmarks.

Needs Assessment and Planning--The Enacted Curriculum Surveys can provide a tool for identifying needs of teachers and schools, determining effects of change in curriculum or policies, or providing instructional data for planning programs.

School Curriculum Improvement--Teachers, schools and districts often seek ways to improve dialogue among teachers regarding their own practice and curriculum content. Data on Enacted Curriculum provide comparable measures for moving toward more in-depth discussions with teachers about content, strategies, and articulation among grades and courses.

SEC Instrumentation Overview

At present, surveys are only available for mathematics and science. Within each of these subject areas, two specific types of SEC surveys are offered; a survey of classroom practices, and a separate survey of instructional content.

The ***'survey of classroom practices'*** is specific to math (or science) teaching activities, teacher preparation, professional development, technology use, and resource availabilityand is appropriate for any K-12 grade level The teacher survey consists of 155 survey items, and can take up to one hour for teachers to complete. A shorter, student survey of 46 items on classroom activities, which parallel items in the teacher survey, is available for grades 4-12. The student surveys typically take from twenty to thirty minutes to complete.

The ***'survey of instructional content'*** provides a detailed audit of instructional content in mathematics or science. Separate surveys are available for each subject at the elementary, middle and high school grade levels. The survey of instructional content can take up to one hour to complete, though teachers of elementary grades are typically able to complete the survey in about thirty minutes.

What's Covered in the Surveys:

Classroom Practices

- School Characteristics
- Class Characteristics
- Most Recent Unit
- Homework
- Instructional Activities
- Use of Calculators, Computers, and Other Equipment
- Assessments
- Instructional Influences
- Classroom Instructional Preparation
- Teacher Opinions
- Professional Development
- Formal Course Preparation
- Teacher Characteristics

Instructional Content

- Curriculum topics taught during a school year (or semester)
- Time on Topic
- Teacher expectations for student learning by topic

SEC Analyses

Descriptive Analyses and Data Disaggregation -- Descriptive analyses are useful for establishing a baseline and monitoring change over time in instructional practice and content. Descriptive results also can be used to assist both professional development and curriculum planning. Such results can also serve as a mechanism for engaging teachers in conversations about curriculum and instruction, with the aim of improving the quality of instructional delivery.

Results in descriptive reports are organized into 'profiles' which group related survey items into thematic charts (e.g. problem-solving activities, instructional influences, teacher readiness, etc), and disaggregated by any of several different grouping variables. While other grouping variables are possible, SEC data are typically disaggregated using the following seven variables that are included in the SEC instruments:

- ?? Grade Level
- ?? Level of Student Achievement
- ?? Amount of Teacher Participation in Professional Development Activities
- ?? Class Size
- ?? Percentage of Minority Students
- ?? Percentage of Female Students
- ?? Percentage of LEP Students

Procedures for conducting and reporting descriptive analyses are outlined under *Data Preparation and Analysis*, in this Guide.

Modeling, Theory Testing & Program Evaluation-- SEC data are also useful for examining relationships between such things as instruction, achievement, resources, and capacity. For such analyses, scale measures are constructed that combine related survey items into a single summary 'scale' measure that can be used in correlational studies with other scale and demographic measures to identify statistically significant relationships. For example, recent SEC-based studies have shown a significant relationship between participation in professional development and reform-oriented instructional practice (Blank, et.al., 1998, 2001 [finalstate report]; Kim et.al. 1999, 2000.)

With correlational data and predictive modeling it is also possible to use SEC data to test theories relevant to teaching and learning and for program evaluation. In the "Upgrading Mathematics" project, Gamoran, Porter, Smithson and White (1997) used an early version of the content instrument to investigate the relative efficacy of differing mathematics programs on student progress. The study was among the first to provide evidence in support of providing algebra courses for all high school students, and the elimination of 'Basic' math courses from the high school curriculum.

Content & Alignment Analysis -- Included in the SEC toolbox are procedures, forms and supplementary materials for conducting content analyses on assessment instruments. Such information can then be used to created content maps of relevant assessments as well as investigate the degree of alignment between instructional content taught and instructional content assessed.

II. Data Collection and Survey Administration

Precautions and Incentives

In using the SEC tools it is important that certain precautions are taken in order to insure the integrity and value of the resulting information. Because much of the information collected using the SEC tools is based on teacher self-reports, it is crucial that participating teachers be guaranteed confidentiality and assured that their responses will not be used to evaluate teacher performance. As a matter of practice, individual respondent data should not be reported or made available in any manner that permits identification of individual respondents.

Moreover, it is important that teachers perceive the task of survey completion as an initial step to facilitate communication among teachers about instructional practice. Teachers and administrators in a school should be provided an introduction and orientation session to the surveys as a group, with the goal of explaining the need for data and how it will be used with the school. All participating teachers should have access to aggregated survey results for their school and district. It is a valuable addition to the overall utility of the SEC tools if reports also include results for similar schools (and districts, to the extent possible, given the data sample). A prepared project schedule should be provided at the outset so that teachers will know when results will be shared and how they will be discussed and used, e.g., in a professional development workshop format.

Selection of Surveys

Completion of the SEC survey instruments requires a significant time commitment and places a notable burden on teachers. For this reason, the selection and scheduling of survey administration(s) warrants careful consideration. Determining which surveys to administer, for which subjects and at which grade levels will help to establish the scope of survey administration for your school or district. The full battery of SEC instruments would involve the completion of both survey types (practices and content) in both subject areas (mathematics and science) across teachers at all grade levels represented at the school, as well as one class of student surveys for each teacher survey completed.

It is quite likely that the particular needs of a school or district will not require the full battery of instruments be administered. It may be decided that student surveys are not necessary, or that one of the teacher instruments need not be utilized. Which surveys are administered to teachers depends in large part on the specific purposes for which the data are to be used.

Survey Administration

The surveys of enacted curriculum can be used and administered in several different ways, depending upon the particular data needs to be addressed.

Each survey typically requires between 30 and 60 minutes to complete. While the SEC teacher surveys have, in the past, been administered in total, (that is, completion of both the classroom practices and instructional content versions in the same sitting) this is not the recommended approach. At a minimum, it is suggested that, if both the practices and content instruments are to be administered, they be completed at different times.

Other administration possibilities include completing particular survey sections over time. Perhaps even conducting initial descriptive analyses and providing reports on results in conjunction with staff development sessions. In this way, the surveys might be completed in fifteen-minute intervals interspersed over the school year. While this approach dramatically reduces teacher burden at an individual sitting, it does place additional burden on the use of staff development time and developing sessions focused on the data results may be beyond the capacity available at the local level. For some schools, it may be better to conduct a minimum number of administrations and provide the results in a single report. Each school or district will need to decide the best approach for the local need.

Though it is often easiest from a logistical standpoint to pass the surveys out and allow teachers to complete them at the leisure, this seldom results in acceptable response rates. It is thus strongly recommended that surveys be administered at a faculty or staff meeting, and completed during the meeting. Not only does this significantly improve the response rate, it gets the data collection out of the way quickly, at one point in time, rather than lingering for weeks awaiting sufficient numbers of returned surveys before beginning data analysis. More importantly, since one of the reasons for completing the surveys is to have teacher interaction on practice relative to curriculum and instruction, bringing teachers together for survey completion also contributes to this process.

Group administration also assists in insuring that respondents have a common understanding of the questions being asked. Thus teachers should be permitted to discuss any questions they feel unclear about. Teachers need not discuss their particular responses, but there should be some agreement on the nature of the questions being posed. Another valuable advantage of group administration of the SEC surveys is that it allows for some introduction to the instruments and the rationale for taking the time to complete them. It provides an important opportunity to motivate the respondents on the value of the exercise and the conversation it is intended to facilitate.

III. Data Entry and Data Integrity

Data File Structures

The number of data files necessary to conduct analyses of SEC data depends upon the types of surveys administered. A separate data file is necessary for each subject area and each survey type (practice or content). Multiple grade levels can be included in a single data file for a given subject area (mathematics or science) for the surveys of classroom practice. Content surveys require a different data file for elementary, middle, and high school grade levels, as the content taxonomy is different across these grade level divisions. Student surveys are identical for middle school and high school grade levels, but the elementary student survey is slightly different. The various data files that may be necessary then are:

Teacher Surveys of Classroom Practices (all grades)
- One file for mathematics
- One file for science

Teacher Surveys of Instructional Content
- One file for elementary mathematics

One file for middle school mathematics
One file for high school mathematics
One file for elementary science
One file for middle school science
One file for high school science

Student Surveys of Classroom Activities

One file for elementary mathematics
One file for elementary science
One file for middle and high school mathematics
One file for middle and high school science

Typically, data files are structured so that each row represents a particular respondent, with the columns referencing specific survey items. However, content data may need to be transposed so that individual respondents are represented in columns, with each row referencing a specific content cell (defined as topic by cognitive demand). Most spreadsheet software, including Microsoft Excel, are limited to 256 columns for a given data file. This is inadequate for the content surveys, as even the shortest content survey (elementary mathematics) requires more than three hundred cells for each respondent. Statistical packages such as SPSS or SASS will handle more than 256 columns, but these statistical packages are unlikely to be available to schools.

Draft data templates (in Microsoft Excel format) are available on the SEC-CD. These templates are intended to help in preparing the survey data for analysis and reporting.

Data Entry Options

There are essentially three options for getting SEC data entered into electronic data files; ***hand entry, scanning, and web-based entry***. Hand entry of SEC data requires only paper-based surveys, a computer and staff person to do the actual data entry. Survey data can also be entered using either generic scan-tron answer sheets, or utilizing software that, coupled with a scanner can read data directly from the SEC surveys into an electronic data file. The SEC Collaborative is in the process of developing a web-based data collection and reporting service that uses web-based versions of the SEC surveys for direct electronic entry.

Each option for data entry has advantages and disadvantages. Each school or district will need to determine the data entry strategy that best suits local circumstances**.** ***Hand entry*** has the advantage of requiring little or no additional equipment, requiring only a computer capable of running a spreadsheet program such as Microsoft Excel. The main disadvantage of hand-entry is the staff-time required for the actual entry of data into the spreadsheet. If ***scan-tron*** services are locally available, this may be a more efficient choice than hand-entry, but requires teachers to mark their responses on generic scan-tron answer sheets, rather than use the survey instruments themselves. With an investment of approximately $1,000.00, one can purchase a scanner and software with which to enter data by scanning the survey instruments directly into an electronic data file. This process is not as fast or dependable as scan-tron entry, but depending upon the number of surveys to be administered, can be more economical and keeps all data processing in-house.

Data entered by hand, scan-tron or other scanning technology, should be proofed to

insure data accuracy, as errors are possible with any of these approaches. Of these three alternatives, scan-tron is the most dependable, but can generate entry errors where a respondent has changed a response, or did not properly fill in the answer bubbles. Other problems related to how the respondent used the answer sheet can also result in data errors when using scan-tron forms. Scanning software depends upon the development of 'templates' (available upon request) for each survey type, and work best when all the surveys to be utilized have been initially printed as one large printing batch. Otherwise, small differences that can occur when materials are printed at different times and/or on different machines can generate entry errors. Thus, it is recommended that any data entered by hand or through scanning technology be proofed. This adds additional staff time to the data entry component, but is important to insure data accuracy.

Web-based data entry puts both data-entry and proofing responsibilities on the respondent. This reduces substantially the amount of staff time necessary for SEC data collection. However, with web-based entry there is no hardcopy source to compare the electronic data to. As a result, if an entry error is made by the respondent it will not likely to be discovered. Additionally, not all teachers are comfortable using computer and web-based technology, and along with computer and Internet availability at a given school, may cause response rate problems or simply be an unrealistic mode of data entry for a given locale. Also web-based data entry is not particularly conducive to the group-based administration we recommend (unless for example, a large computer lab is available for administering the surveys). Finally, the web-based system remains under development, and is not widely available for use. Schools or districts interested in the web-based approach should contact CCSSO about participating in pilot testing of the web-based service under development.

IV. Data Preparation for Analysis

Once the data has been entered into electronic data files, a few steps are required to prepare the data for analysis. In general, preparation for analysis involves re-coding and/or re-calculation of certain variables for analysis purpose, along with data-checks to insure data integrity and accuracy. The particular steps required in preparation for analysis is different for instructional content data than for classroom practice data, and each is addressed separately below.

Preparing Classroom Practices Data for Analysis

Out of Range Variables-- While proofing/validation procedures during data entry should have caught any data errors, if the data was either scanned, or entered by hand, it is prudent to run an initial analysis of the raw data to check for any 'out-of-range' variables or possible problems with missing data. If a statistical package is available, the simplest way to handle this is to import the raw data into the statistical package, and then run descriptive statistics (including range, or minimum and maximum values) for each item. If working in a spreadsheet program such as Excel, create summary variable at the bottom of each column to display the 'minimum' and 'maximum' values for each variable (or column) in the data set. If using a SEC data template, these summary variables will be located at the bottom of the 'rawData' worksheet. If data was collected through the SEC web-site, this step is not necessary, as the data is validated on entry.

These range values should be compared to the response ranges for each survey item, to

insure no 'out-of-range' variables are in the data set. If out of range variables are found, identify the specific record (or row) where the out of range variable is located, in order to determine which survey the data came from, and then review the hard-copy of that survey to determine the proper value for the item in question. Update the raw data file as needed.

Calculating proportional data-- In addition to checking the data for obvious problems, such as out-of-range variables, certain survey items (q27-q57) require conversion to proportional measures. While the SEC response categories have been designed to make this conversion easy, it still requires some preliminary calculations before running any data analyses.

Items 27 through 57 are grouped into six sections:
(1) Homework, (2)Instructional Activities, (3)Problem-solving activities (math), or Laboratory activities (science), (4)Small Group work, (5)Use of hands-on materials (math), or Collect information (science), and (6)Use of calculators, computers, etc.

Each section requires re-calculation in order to create proportional measures relative to each section. To convert the 0-3 response categories to proportional measures, a measurement point must be selected for the range represented by each response category. We have selected 0%, 15%, 30% and 45% as the replacement measure for each response category. Because these measures are all factors of 15, the original responses can be used for the proportional calculations, thus simplifying the process for calculating the proportional measures.

The procedure for this calculation is as follows; Sum the responses within a given section for each respondent. This becomes the denominator [D] for each proportional calculation within that section. The numerator becomes the particular response for a given item [I], so that the proportional measure equals: [I]/[D].

This results in relative proportional measures for each section. However, note that each section for items 41 through 67 is set within the context of "when students are engaged in..." (some activity from the list of instructional activities listed in items 34 through 40). The SEC profiles used for reporting results make use of these 'relative' measures, and so further calculations are not required for reporting instructional 'profiles'. However, if instructional scales are to be calculated and used, it is important to calculate 'total' rather than 'relative' proportions for scale construction.

To calculate the 'total percent' of instructional time, as opposed to the 'relative percent' yielded by the calculations above, the following steps are necessary:

For mathematics:

Multiply each proportional result for items 41 through 48 by the proportional result from item 37.

Multiply each proportional result for items 49 through 54 by the proportional result from item 38.

Multiply each proportional result for items 55 through 60 by the proportional result from item 36.

Multiply each proportional result for items 61 through 67 by the proportional result from item 40.

For science:

The procedure is the same as mathematics except that the proportional result for items 55 through 60 should be multiplied by the proportional result from item 34.

Constructing Scale Measures -- Scale measures are summary measures that draw together items from various sections of the survey that are related to some conceptual construct related to instruction. Analyses that have been conducted during the development of the SEC instruments have identified nine scales (ten, for science) that have performed well in terms of internal reliablity and correlating well with other measures during field tests and subsequent studies. The particular items that go into each scale can be found in appendix A of this Guide.

Because the items that go into the various scales often have differing response metrics, each item used in a scale needs to be 'standardized'. All statistical packages, including spreadsheets, include a function for calculating standardized scores. Once the scale items have been standardized, they can be averaged to create a summary measure. However, for this summary measure to have the properties of standardized measures (mean of 0 and a standard deviation of 1), the resulting summary measure should itself be 'standardized'.

The result is a set of scale measures with a sample-wide mean of '0' and a standard deviation of '1'. Because these scale measures have to be standardized, they can only be interpreted relative to the sample as a whole. The original reponse metrics that defined the original measures can not be used with scales. Thus, for particular schools scale measures may not be very useful, unless the school is part of a larger sample, (e.g. district or state) where the scale measures can be used to compare schools to another and to the overall sample.

Preparing Content Data for Analysis

The content component of the SEC instrumentation presents a dense data set, with more than 500 data points for some grade level/subject combinations. The number of data points a respondent may report on is dependent upon the breadth and depth of topic coverage for a given subject and class, as no class covers the full spectrum of content that may be taught (and described using the SEC content language). Nonetheless, the number of potential data points, and the data transformations necessary to yield results in the form of content maps, content graphs, and alignment measures create some challenges for managing content data.

The SEC-CD includes spreadsheet templates for entering and calculating content data for middle school mathematics and science. Other grade levels, and possibly other subject areas may become available in the future. The reader should review the templates for specific procedures for transforming content data into usable information, but the general process can be outlined here.

The data set is initially organized into columns, so that each respondent's data is represented as a column of data. Each row then represents a specific cell in the content matrix. A cell is defined as the intersection of a specific topic by a specific category of cognitive demand. There can be five or six categories of cognitive demand, and from 60 to 170 specific topics. This yields from 300 to more than 1000 cells, and thus requires 300 or more rows to store a full set of content data. This columnar format is used for storing the data, for calculating proportional measures from the raw data, and for tabulating group totals. The columnar data is then converted to a matrix format for reporting the results in maps and graphs.

In order to calculate alignment, it is necessary to have a minimum of two data sets for comparison. This could be two summary data sets, such as reports from teachers in a district compared to an assessment of local relevance that had been content analyzed by a group of subject area specialists (yielding a measure of alignment between instruction and assessment). It

might also be used to compare the results of two raters used to code a given assessment (yielding a type of inter-rater agreement). Alignment involves two types of calculations, a calculation of 'level' and a calculation of 'configuration'. The product of these two measures yields the alignment measure. For more information on calculating alignment, and sample alignment results, see *Alignment Analyses* in the Results section of the SEC-CD.

V. Data Analysis & Reporting

For most school and district use, basic descriptive data provides a wealth of information about practice. The SEC templates are designed to report mean and standard deviation for both specific survey items and scale measures. For the purposes of most readers, these descriptive results will be sufficient. Some may wish to conduct correlational studies in addition, and procedures for doing so are outlined in the SEC templates. Researchers and policy analysts will of course utilize additional statistical procedures for examining the effects of and contributions to reform, but these procedures are beyond the scope of this document.

The primary question for the typical user of the SEC tools will concern which results to review and the manner by which to cut through that data. The SEC templates are designed to display results using six categories of disaggregation; grade level, achievement level, class size, percent minority, percent female, and percent LEP. Data are organized into more than two-dozen Charts reporting scales, profiles, and maps of instructional practice.

If data on local or state assessments are available, then comparisons between instructional content and assessment content can be conducted. The content templates in the SEC toolbox make the process of constructing content maps and calculating alignment easy, once the initial content data has been collected and entered into an appropriate electronic format.

Chart Construction and Reporting of SEC data

Chart construction, and reporting SEC results are largely automated using the SEC templates. These templates are Excel spreadsheets, that include self-contained data storage, transformation, and chart formatting worksheets. Thus, to use the templates access to Micorsoft Excel is necessary. The templates also support Corel graphic formats, making possible a more robust reporting system that allows comparison of two data sources (e.g. school and district) in a print-ready report format (also included in the SEC-CD (requires Corel WordPerfect Office Suite).

Charts are labeled alphabetically, and organized as follows:

Chart A: Scale Measures of Instructional Practice
Chart B: Scale Measures of Teacher and School Characteristics
Chart C: Class Description
Chart D: Use of Class Time During Most Recent Unit
Chart E: Use of Homework
Chart F: Instructional Activities
Chart G: Problem Solving Activities
Chart H: Small Group Work
Chart I: Use of Hands-On Materials / Student Reflection of Scientific Ideas

Chart J: Assessment Strategies
Chart K: Use of Calculators, Computers & Educational Technology
Chart L: Participation in Professional Development
Chart M: Influences on Instructional Practice
Chart N: Teacher Course-taking
Chart O: Teacher Readiness (Part 1)
Chart P: Teacher Readiness (Part 2)
Chart Q: Teacher Beliefs (Part 1)
Chart R: Teacher Beliefs (Part 2)
Chart S: Mathematics / Science Content Maps (coarse grain)
Chart T: Mathematics / Science Content Graphs (coarse grain)

The information reported in each chart can be disaggregated by any of the following grouping variables:

1 - Grade Level
2 - Level of Student Achievement
3 - Amount of Teacher Professional Development
4 - Percentage of Minority Students
5 - Class Size
6 - Percentage of Female Students
7 - Percentage of LEP Students

Procedures for using and modifying these variables and their deffinitions are discussed in more detail in the SEC data templates.

Content Charts

Information on instructional iontent is reported using two different types of graphic displays. Content maps display content data using a surface area chart that results in a map, similar to a topographic map. In these conatent maps the 'lattitude' lines represent topics (or topic areas, depending upon grain size; see below), while the longitudinal lines denote the various categories of cognitive demand. Elevation, represented by color (or grey-scale) bands, reports the proportion of instructional time spent at a particular location (topic by cognitive demand intersection). Similar content maps can and have been constructed for various district, state and national assessments, making comparisions between instruction and assessment possible.

Information on instructional content can also be reported using content 'graphs'. These charts use familiar bar charts to report the proportion of instructional time spent on each topic area and cogntive demand category. See Chart T in the SEC charts for an example of a content graph.

In addition to these two types of content charts, instructional content can be reported at either a coarse grain or fine grain level of detail. For example, in mathematics ninety-one discrete topics are organized into six topic areas. Coarse grain content maps are based upon 30 data points (6 topic areas X 5 cognitive demand categories), while fine grain content maps for mathematics uilize 455 data points (ninety-one topics X 5 cognitive demand categories). In science, 170 topics are organized into 25 topic areas, which are in turn organized into six topical

zones. Science also uses five categories of cognitive demand, thus yielding a total of 850 data points at the fine grain level (170 topics by 5 cognitive demand categories), 125 data points at the medium grain size (25 topic areas by 5 cognitive demand categories), and 30 data points (6 topical zones by 5 cognitive demand categories) at the coarse grain level. Charts S and T report coarse grain content data, while the Chart AA series report fine grain results. In mathematics fine grain maps are reported in Charts AA0 through AA6. For science, fine grain maps are reported in Charts AA0 through Chart AA11.

Templates for entering, calculating and reporting content data are available on the SEC-CD (click on "SEC Data Templates" in the Results section). Examples of both coarse and fine grain content maps are also accessible from the Results section of the SEC-CD.

Using SEC Data Reports

Additional information on using curriculum indicator data in general and the SEC tools in particular can be found in the following documents:

Guide for Educators on the Use of Surveys and Data on Enacted Curriculum, (1996): CCSSO.

New Tools for Analyzing Teaching, Curriculum, and Standards in Mathematics & Science, (2001): CCSSO.

Using Data on Enacted Curriculum - A Guide for Professional Development, (2001): CCSSO.

All three documents are available in the Reference section of the SEC-CD and from the Council of Chief State School Officers (www.ccsso.org).