Renewing or writing a school of education secondary science SPA accreditation report

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In the United States, Universities have accepted the necessity for standards in many disciplines and have chosen to apply for accreditation through either state or national accreditation approved agencies. In some states, accreditation is required by the state governing groups in order for students to receive state or national scholarship aid. In Schools of Education, the current national accrediting agency is CAEP, Council for the Accreditation of Educator Preparation. For Science, the professional organization is the National Science Teachers Association, NSTA. This article reviews the evolution of CAEP and gives a concise, step-by-step formula for applying for renewal accreditation in the secondary science content. Suggestions for simplifying the process are listed in specific steps.

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Background Information

National accreditation for teacher education programs of U.S. colleges and universities began in the 1952. The "National Council for Accreditation of Teacher Education (NCATE) was founded in 1954 to accredit teacher certification programs at U.S. colleges and universities. NCATE was composed of a council of educators created to ensure and raise the quality of preparation for their profession. The U.S. Department of Education recognized NCATE as an accrediting organization. NCATE accreditation was specific to teacher education and was different from regional accreditation". (http://wikipedia.org). NCATE was a non-profit organization not affiliated with the government. In 1997, Teacher Education Accreditation Council (TEAC) also was founded; dedicated to improving academic degree programs for professional educators. These two accrediting agencies, NCATE and TEAC, lead the national accrediting process until 2016 when CAEP accreditation standards became the new agency for national accreditation for teacher education in the United States. Both NCATE and TEAC board of directors worked together from 2009 and together they put together the Design Team Report which suggested the formation of CAEP. CAEP's mission is "to increase the value of accreditation and to increase participation, building on the decades of institutional knowledge of education's previous accreditors." (http://CAEP.org)

The question one should ask is "why seek accreditation?" and more importantly "what is accreditation?" An accreditation review is a process that a school or program can voluntarily apply for in order to see how they compare with other institutions and find areas where they can improve. The institution or program becomes a member of the accrediting agency if they pass the review. Graduation from an accredited college program may be required to gain a teaching certificate in certain states. Not all programs have gone through the expensive and time-consuming review process, but there are several notable advantages that attending an accredited college can offer:

- Financial Aid – Attending an accredited education school opens the gateway for you to participate in federally funded and state entitlement programs. Only accredited college programs that are recognized by the US Department of Education can offer state and federal financial aid.
- Transfer of Credits – When you graduate from an accredited college, you qualify to attend other accredited colleges to pursue advanced studies, including master's degree and doctoral programs. Only credits earned from an accredited education school will transfer to another accredited college.
- Employment – Graduating from an accredited college program can also make you more competitive in the job market; employers prefer to hire teachers who graduated from accredited teaching programs because these employees were trained under nationally established standards for teaching education.

(http://alleducationschools.com)

The Process

In the past before CAEP

Both TEAC and NCATE provided workshops for people to attend who were about to write the report either initially or for renewal. Every seven years after achieving accreditation, the Specialty Professional Association, SPA, report needed to be reviewed for accreditation

renewal. Since the time between each renewal was so vast, usually the renewal process due to new technology, new standards and other changes in the curriculum, was completely different and at times was as difficult as the initial accreditation process. For instance, in 2006, documents were sent to the accrediting agency in paper format. In 2007, the documents were not accepted in paper format but had to be submitted on a file format. The secondary science SPA report include eight assessment justifications, eight assessments, eight rubrics and five specific program sections. Data was to be kept but no format for the process was suggested. Data and analysis of the data was to be submitted via section IV and V yearly in file format.
Currently CAEP renewal

The current CAEP renewal and reapplication is done electronically on a prepared website via the Internet. Specific pages asking specific questions are provided. All information needs to be directly uploaded or cut and pasted into information windows. The information is grade specific; therefore information for secondary science undergraduates is completely separate from secondary science graduate information. Most of the information needed may be found in the files processed in the formats prior to CAEP; however, most of the information needs to be reformatted to fit the format provided by the website. In Section I, each assessment justification needs to have A. Description, B. Directions, C. Assessment, D. Data, Data Analysis, and Impact On Program, and E. Interpretation. Therefore, the assessment justification, assessment, rubric, data and analysis including interpretation need all to be on a file per undergraduate and per graduate secondary science program. Originally all of these components were on separate files and now all are on one file. Separating graduate programs from undergraduate programs provides a way to review each program and make adjustments on a program-by-program basis. Section II Assessment and Related Data and Section III Relationship of Assessment to Standards seem to have remained the same and are uploaded as a file to the website.

Specific Steps to take for renewal of secondary science accreditation on CAEP

Log in to the CAEP website http://aims.caepnet.org/ type in your institutions name and password. Click onto the "Program Review System" link. Scroll to your program name. You will notice that there are separate links for graduate and undergraduate programs. For Instance, Science Education BS and Science Education MAT are divided into two separate links both under the NSTA Spa heading. You will click on one of the links. Take some time and read the following completely and gather your files. You might want to put your files in order before beginning the process. You need files for all eight assessments, and Section I-V. Follow the instructions for the eight assessments in the process for Section IV in section 5 below. The website allows you to close and return as many times as needed. You can go back and forth to each page by clicking the "next" and "previous" links provided. Just DO NOT submit at the end! Follow the format provided and for section I, keep data current on all sections. Determine a secondary science program committee and make certain that there are yearly minimum meetings to discuss the program. Keep minutes of the meetings because they will need to be included in the report.
The report contains the following sections for you to complete:
1. Cover sheet includes demographic information.
2. Section I content includes description of the state and institutional policies, field and clinical experiences and also asks for the science education curriculum charts, candidate information for the past 3 years and faculty information. New for clinical, will be the

data gathered from videotaping candidates during their student teaching experience. Since this is new, the format for data is still not available.

3. Section II Lists of Assessments is a chart listing the name of the assessment, type of assessment, and when assessment is administered. For Secondary Science:
    - Assessment 1—Licensure tests
    - Assessment 2- Content Knowledge
    - Assessment 3- Planning/pedagogical and professional knowledge, skills and dispositions
    - Assessment 4-Effective Practice/ pedagogical and professional knowledge, skills and dispositions
    - Assessment 5-Effects on Student Learning
    - Assessment 6- Legal/Safety/Ethical Issues
    - Assessment 7-Research and Investigation
    - Assessment 8-Contextual
4. Section III Relationship to Standards is a chart designed to link secondary science standards to assessments.
5. Section IV Evidence for Meeting Standards includes all of the assessments, rubrics for each assessment, data and analysis and interpretation of data. This is the Major part of the report and if you have each assessment on a file according to the requirements, this may save you some time. Use the following guidelines listed on the website to put together each file

(1) A two-page narrative that includes the following:

a. A brief description of the assessment and its use in the program (one sentence may be sufficient);

b. A description of how this assessment specifically aligns with the elements and standards it is cited for in Section III. Cite SPA standards by number, title, and/or standard wording.

c. A brief analysis of the data findings;

d. An interpretation of how that data provides evidence for meeting standards, indicating the specific SPA standards by number, title, and/or standard wording;

and

(2) Assessment Documentation

e. The assessment tool itself or a rich description of the assessment (often the directions given to candidates);

f. The scoring guide for the assessment; and

g. Charts that provide candidate data derived from the assessment. (http://aims.caep.org)

6. Section V Use of Assessment Results to Improve Program data comes from the Section V data.
7. Section VI Only for Revised Reports or Response to Conditional Reports.

Further Suggestions for Section 5 Assessments

      Assessments 1 requires data for national secondary science licensure tests including state, national Praxis data and school policies. Separate the graduate and undergraduate information and put into separate files. It would be appropriate to add the videotaping data in Assessment 1. **Assessment 2** requires data from the science departments indicating whether the content is covered in the program. Specific topics need to be reviewed by the faculty for determining which course covers each topic. For the graduate program, a review of similar courses taken outside of the university needs to be done to satisfy that all topics have been covered. A list of the Biology, Chemistry, and Physics content requirement analysis is provided in Appendix A. **Assessment 3 and 5**, address the ability of candidates to plan lessons (Assessment 3) and then plan and implement the plan (Assessment 5). A teacher work sample, which requires the student to write a rationale, goals, and outcomes followed by the design for instruction including lesson plans and unit plan and instructional decision making with an analysis of student learning and reflection should be developed. Assessment 4 addresses the student teaching observation. Again it would be good to include the videotaping documentation again in this Assessment. If you only have either undergraduate or graduate programs, disregard this suggestion. **Assessment 6** focuses on safety. In addition to a science safety test, the FlinnSci.com website provides an excellent course for biology and chemistry complete with a certificate following completion of the hours and quizzes of the videos. Many school districts are using these videos and the certification for their science faculty. **Assessment 7** focuses on scientific investigation that must include the following:

  (a) Identify the science problem and complete literature research
 including data tables to be used by the learners to collect, process and explain their results.
  (b) Formulate the scientific research questions and experimental design.
  (c) Develop the science teaching notes which includes a choice of research based science activities for the learner, suggestions for appropriate technology to collect, process and explanation and interpretation of the data.
  (d) Write classroom management which identifies time needed, science safety concerns, equipment required and instructions for data collection and analyses.
  (e) References and discussion including final conclusions.

If this assessment needs to be done in the methods class, research could be reviewed by the science faculty. A rubric needs to be written to provide the science faculty with the guidelines for this research. The more appropriate way to satisfy this assessment would be to include this in the undergraduate science class. However, for graduate student candidates, including this research in a methods class with the cooperation of the science faculty is suggested. One method to use might be to have the students author/write a case study and then test the case study by performing the science including addressing all of the investigations listed above. **Assessment 8** science readings and content papers. Suggestions for addressing this might be in researching and writing a paper on the nature of science and technology or in researching various resources that connect to the Next Generation Standards and to the content.

References:

http://CAEPnet.org
http://wikipedia.org
http://All Education Schools.com
http://aims.caepnet.org/