

## **APPLYING NOVAK'S NEW MODEL OF EDUCATION TO FACILITATE ORGANIZATIONAL EFFECTIVENESS, PROFESSIONAL DEVELOPMENT AND CAPACITY-BUILDING FOR THE NEW TEACHER ALLIANCE**

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Abstract. Managing a multi-stakeholder, complex statewide teacher improvement project presents many challenges. Fostering effectiveness and sharing lessons learned among the partners and stakeholders is essential. Concept maps and Novak's New Model of Education (2004) are being used to facilitate organizational effectiveness, professional development, and capacity building for The New Teacher Alliance (NTA). NTA is a partnership of seven (7) school districts and two (2) educational service districts (ESD) in Washington State. Its mission is to implement model induction programs for novice teachers. NTA focuses on building district capacity to retain new teachers for the crucial first five years of teaching. Its work is guided by five standards of effective induction and conceptually associated elements. Using CmapTools, a "skeleton expert" concept map was created from these five standards and associated elements (sub-concepts). NTA partners are enhancing and extending this "skeleton expert" concept map by contributing work products, and by further differentiating and integrating the conceptual elements. Work products are accessible to participating partners via the Cmap. A web-version was launched in June 2008 to share the NTA knowledge model and partner's work products with other educators in Washington State, the United States, and globally. This paper presents progress and results-to-date.

### **1 Novak's New Model of Education**

Drawing on over thirty years of research and successful results using concept mapping to foster meaningful learning for students and teachers, Novak and Cañas (2004) presented a new model for education based on the use of "skeleton expert" concept maps created with CmapTools. Rooted in Ausubel's (1963) theory of meaningful learning, Novak's New Model calls for students to extend the "skeleton expert" concept maps by further differentiating the concepts, by increasing the integration through new cross-links that clarify conceptual inter-linkages, and by adding knowledge resources to the Cmaps.

The target application of Novak's New Model is the improvement of meaningful student learning and achievement in science and math. Novak and Canas (2004) call for more research on how to devise 'skeleton expert' concept maps and how to employ them in teaching and learning.

One innovative application of "skeleton expert" concept maps is as facilitative tools to increase the effectiveness of work in an organization. Peter Drucker (2001), who coined the term "knowledge worker," argued that the job of a knowledge worker is to be effective. He defined effectiveness as "contribution to the performance of the organization-as-a-whole," and held that increasing his or her effectiveness may be the only way to significantly raise the level of the knowledge worker's performance and achievement.

A "skeleton expert" concept map of an organization's goals and objectives provides a context for meaning-making that helps members of the organization understand how their work contributes to the organization's goals, i.e., it provides a context for understanding what is required in order for contributions to be effective.

### **2 Application of Novak's New Model of Education to Improve Organizational Effectiveness, Professional Development and Capacity-building**

The New Teacher Alliance (NTA) is an initiative of the Center for Strengthening the Teaching Profession (CSTP). CSTP is an independent, nonprofit organization that fosters student achievement by improving the quality of teaching in Washington State. NTA is a partnership of seven (7) school districts and two (2) educational service districts (ESD). Its mission is to provide leadership and support to help school districts implement model teacher induction programs for novice teachers. NTA focuses on building district capacity to retain new teachers for the crucial first five years of teaching by focusing district effort on five standards of effective induction – hiring, orientation, mentoring, professional development and assessment for learning.

In a multi-stakeholder initiative such as the New Teacher Alliance, the "organization-as-a-whole" is distributed and consists of all the partner teams, as well as the CSTP staff responsible for project leadership and management. The geographic distance among partners and relatively infrequent meetings make it challenging to

keep the “organization-as-a-whole” and its objectives center-front. These factors also make it challenging for CSTP staff to be able to accurately assess how the capacity of the organization-as-a-whole is developing, and to identify current capacity gaps in a just-in-time manner. Jeanne Harmon, Executive Director of the Center for Strengthening the Teacher Profession (CSTP) put it this way: “Managing a multi-faceted, complex statewide project such as [the New Teacher Alliance] is a huge challenge, and sharing lessons learned amongst the many partners is absolutely critical to our success.”

To address this challenge, CSTP contracted with Sound Knowledge Strategies, LLC to create a Cmap—“Successful Teacher Induction in Washington State: Standards for Beginning Teacher Induction” (Figure 1). The Standards and Elements represented in the Cmap were drawn from a document, “Effective Support for New Teachers in Washington State: Standards for Beginning Teacher Induction.” The standards were identified by a group of master teachers, district administrators, mentors, and were reviewed by experts in the field. The concept map of the Standards and Elements, therefore, qualifies as a “skeleton expert” concept map.

The Cmap facilitates sense-making, alignment of partners’ work with project goals, and enables partners’ work and insights to be shared within NTA, as well as with the wider education community interested in teacher induction. NTA is applying Novak’s New Model of Education not only to foster meaningful learning for individuals, but also to provide a knowledge-based, sense-making infrastructure for a distributed organization. The “skeleton expert” concept map serves as a knowledge-building infrastructure as well as a cognitive scaffold.

Reporting on the contribution the concept map makes, Mindy Meyer, NTA Project Director, notes: “The concept map gives a visual representation of our standards that helps many of our team members see the work from a holistic viewpoint and allows them to make connections between the standards and elements and their impact on each other.”

### 3 Procedures and Results-to-Date

The initial step was to translate the text version of the standards and elements in “Effective Support for New Teachers in Washington State: Standards for Beginning Teacher Induction” into a Cmap – Figure 1.

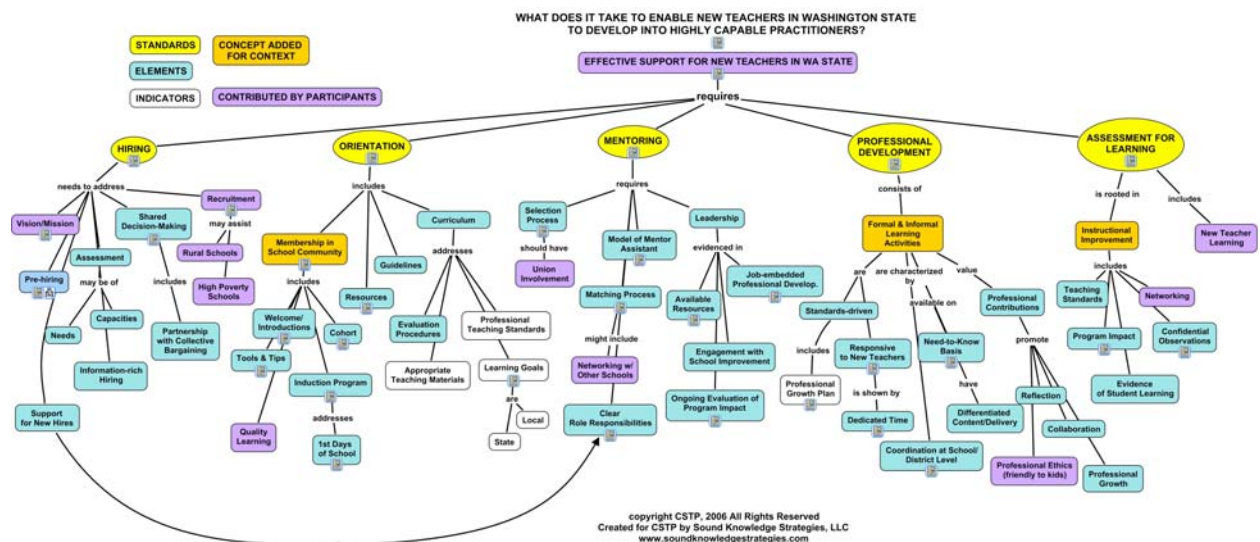


Figure 1. Standards and Elements for Effective Support for New Teachers in Washington State – November, 2006 version

The concept map was used by twenty (20) team members including, mentors and administrators, in the New Teacher Alliance during a professional development workshop in November, 2006. Participants used the concept map as a way: 1) to see the whole conceptual landscape for successful teacher induction, 2) to identify the standards and elements their own work-to-date addressed, 3) to locate the standards and elements that represented areas of collective strength, 4) to identify those where no work had yet been done (gap analysis), and 5) to add their own contributions to further differentiate and integrate the concepts in the Cmap.

For example, participants identified a cross-link between two non-adjacent elements: “Support for New Hires” and “Clear Role Responsibilities” – see Fig. 1 above. They also identified the concepts that would be components of a concept map for the “Prehiring” element. The new sub-concept map was attached to the “Prehiring” concept node (Figure 2).

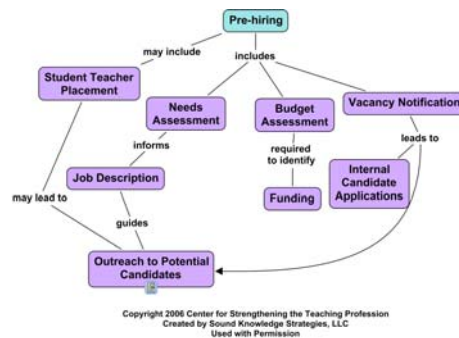


Figure 2. “Skeleton Expert” Map “Prehiring” Element as “Fleshed-out” by NTA Partners

Working in pairs, or teams of three, participants wrote a phrase to describe each of their work products on a separate Post-It note and attached the notes to the appropriate concept nodes on a 14”x17” hard copy printout of the concept map. During this work, reflective discussions took place about which elements the work supported. Each team’s annotated concept map made areas of current capacity, as well as gaps, visible.

Throughout the workshop, a large (3’ x 4’) vinyl copy of the concept map was displayed on an easel in the front of the room. After the work in teams, a representative of each team was invited to bring the Post-It notes describing their team’s work and to place them on the large concept map. The collective contributions gave a snapshot of NTA’s current organizational capacity. It was immediately clear that most work had been focused on Hiring, Orientation, and Mentoring and, that less had been done for elements of the Standards for Professional Development and Assessment of Learning.

Generally, participants were enthusiastic about CmapTools and their use of the concept map to support sense making and effectiveness. The following comments were among those listed in response to the evaluation question: “What was the most useful part of the workshop?”

- “Placing activities on the concept map.”
- “Versatility of the tool.”
- “Developing a map from class input.”
- “The ability to collect the broad picture with details that can clarify issues.”
- “Collaboration with table group and hands-on exposure to the technique of concept mapping.”
- “Understanding the concept map and working with it.”

A few participants, however, reported finding the concept map confusing and indicated that more information on the link between the concept map and the standards would have been helpful. In response to the evaluation question: “What will you do differently as a result of this workshop?” one participant responded: “Think more clearly about the wide range of initiatives implied by the standards.”

At the end of the workshop, Bowen provided a demonstration of how to upload digital documents to the concept map. It took about two months to get CSTP’s Cmap server launched and to work out the details of getting the documents to the technical support person in charge of uploading them for each team. To date, fifty-eight (58) documents have been contributed. They include a wide-range of practical support tools such as:

- 5-Day New Teacher Orientation
- Mentor Interview Questions
- Goals and Roles of Mentoring Program
- Classroom Management 1-5
- Professional Development Plan
- Practice to Action
- Equity Handbook
- “So You Want to Teach?”

- New Teacher Support Survey.

During the 2006-2007 school year, Bowen worked with Meyer to define format guidelines for the documents that NTA partners are sharing. Initially, several MS Publisher documents were attached but these could not be opened. This led to MS Word, MS Excel, PDF, and jpeg being the standard allowable formats. NTA participants send their Publisher files to the NTA project assistant who uses a software program designed for that purpose to translate them into PDF files. Bowen also developed a five-item assessment rubric and used it to assess each of the documents contributed by the partners. The five rubric items are:

- Alignment (Content of document aligns with Standard and Element to which it's contributed.)
- Effectiveness/Impact (Does the document convey systemic impact on the whole school district.)
- Meaningful learning (Document provides evidence that team has incorporated new information to improve existing knowledge and practice related to this Element.)
- Self-assessment/Reflective practice
- Professional contribution (Does the work product advance the knowledge and practice of NTA?)
- Continuous improvement

NTA partners are using the rubric as a self-assessment tool to guide the revision and upgrading of their work products, which will be shared via the web-version of the concept map that was launched in June.

In March, 2008, Meyer met with seven NTA participants to review and extend the concept map. Participants added nine (9) new concepts, “fleshed-out” four (4) elements from the initial “skeleton expert” concept map - including “Formal and Informal Learning Activities and Resources” (Figure 3), and added five (5) new cross-links - indicated in purple in Figure 4. They also suggested creating a cover sheet that would include information about each document’s context, purpose, goals, reflection, and contact person so that interested parties can have a clearer sense of each document and why it was created.

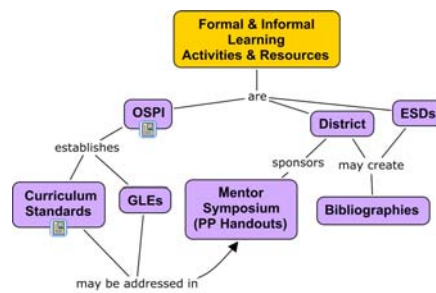


Figure 3. Concept –“Formal & Informal Learning Activities & Resources” “fleshed-out” by NTA Partners

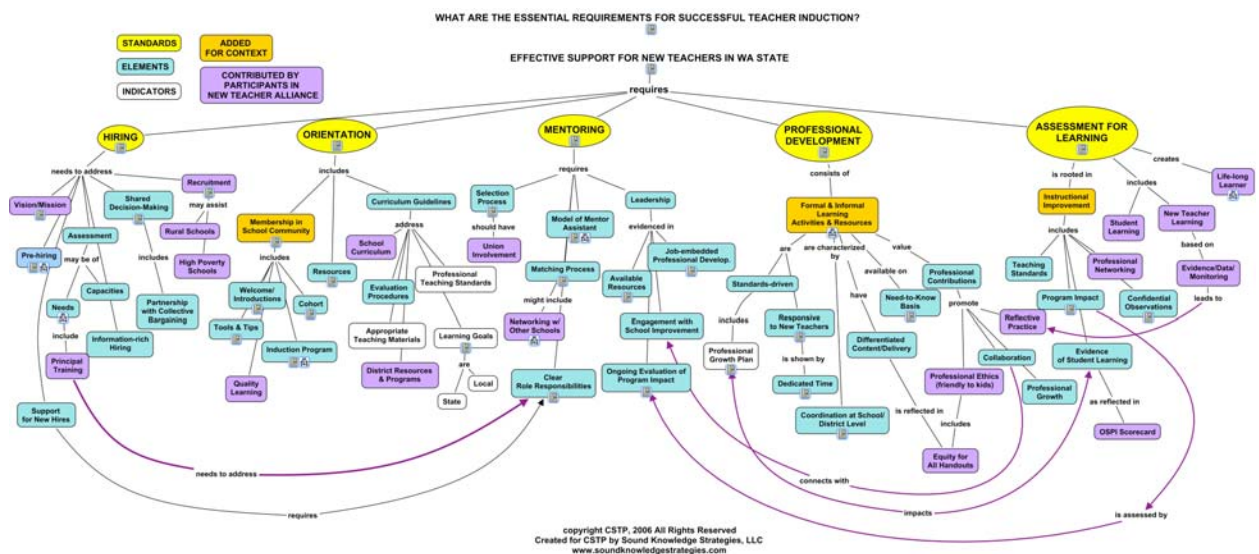


Figure 4. Standards and Elements for Effective Support for New Teachers in Washington State – with March, 2008 NTA partner additions

The web page version of the concept map re-titled as “New Teacher Induction Standards is accessible from the NTA homepage: [http://www.cstp-wa.org/Navigational/New\\_Teacher\\_Project/New\\_Teacher\\_Alliance.htm](http://www.cstp-wa.org/Navigational/New_Teacher_Project/New_Teacher_Alliance.htm) on the Center for Strengthening the Teaching Profession’s website. The web-based Cmap is a resource for K-12 administrators and leaders in Washington State and beyond who seek to create, high-quality, high-impact teacher induction initiatives.

The resources are available for re-use by educators via a Creative Commons License. The “Attribution, Non-Commercial, Share-Alike” License allows derivative works and modifications to be made provided they are not used for commercial purposes and are shared under the same Creative Commons License as the original work. The presence of the Cmap and its knowledge resources in the dynamic global Creative Commons enhances the potential for its widespread impact.

NTA Participants will continue to add documents and knowledge resources during the remaining eighteen months of the project. It is anticipated that this will result in the development of the first comprehensive knowledge model to addressing the induction of new teachers.

#### **4 Other Uses of “Skeleton Expert” Concept Map**

Project Director, Mindy Meyer uses the Cmap to assess individual team capacity and the collective capacity of the project-as-a-whole. It provides a way to “take the pulse” of areas where partners are excelling and where they may need assistance. Meyer reports that the concept map “allows districts to see the standards in a visual way that shows the interconnectedness of the work. It also creates an opportunity for the alliance partners to build from each other’s work.”

There is a link to a jpeg image of the concept map on the New Teacher Alliance website and a segment of the concept map has been included in “New Teacher Alliance: Improving Teacher Induction in Washington State,” which is available on the NTA website.

#### **5 Summary**

The application of Novak’s New Model of Education to support organizational effectiveness, professional development and capacity building by the New Teacher Alliance is generating positive results. Partners are actively “fleshing out” the “skeleton expert” concept map of “New Teacher Induction Standards” by contributing their work products, by adding new elements, by further differentiating existing elements, and by strengthening conceptual integration by identifying new cross-links. They are taking leadership in suggesting ways to upgrade and improve the quality of the work products they contribute.

The impact of their work will reach beyond the seven (7) districts and two (2) education service districts (ESDs) when the webpage version of the Cmap is made public in May, 2008. The authors believe that when the map is publicly launched and its use by others becomes visible, that an enhanced sense of professional leadership and effectiveness for the educators participating in NTA is a possible result. It may be useful to design a way to assess or measure this impact.

#### **6 Acknowledgements**

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