



Project Report of the Washington State LASER Middle School Curricular Materials Alignment with the 2010 Washington State Science Learning Standards

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For ESD 105, Yakima, Washington



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Goal of project:

Provide the greater educational community of Washington State a research-based tool that will support the instructional alignment of the Washington State LASER middle school curricular materials to the 2010 Washington State Science Learning Standards.

Process:

The ESD Regional Science Coordinators proposed a response to the Washington State LASER Instructional Materials Alignment Request for Proposals. The response was negotiated and accepted with work to begin on the alignment project in January 2010. The ESD Regional Science Coordinators and Washington State LASER Alliance Directors supported ESD 105 in coordination with ESD 113 to develop and refine the management plan that includes oversight, administrative and fiscal support and website development. Specifically the management plan includes the following:

Phase I-Template and Process Design

Phase II-Professional Development on Process and Statewide Alignment for Alignment Teams

Phase III-Regional Alignment

Phase IV-Statewide Review and External Evaluation

Phase V-Final Report and Publication

This report will detail the work done and documents produced in each of these phases of the project.

At this same time, a Project Manager, Mary McClellan, was secured to facilitate this project. Mary McClellan was chosen to lead this project because she is a highly respected science educator and leader, having over thirty years of experience in the Washington State science education community. In addition, she was the Director of Science Education for Washington State when the current Science Learning Standards and Science Instructional Materials Review were developed and facilitated both processes. She has a vast and unique base of knowledge and experience from which to draw upon that particularly qualifies her to do this statewide project.

Phase I-Template and Process Design

Phase 1 began with the recruitment and development of a Development Leadership Team that functioned to provide input and guidance for the development of a set of common alignment tools that will support teachers and district leaders in the use of the following middle school curricular materials (Appendix A):

- Science and Technology for Children (STC/MS), Carolina Curriculum
- Full Options Science System (FOSS), Delta Education
- Science Education for Public Understanding Program (SEPUP), Lawrence Hall of Science and Lab-Aids

Members of the Development Leadership Team were selected based on their high levels of experience and expertise in the field of science education and administration. All team members have had a great deal of previous experience in developing, aligning and supporting teachers and administrators to implement standards based instruction and curricular materials. Many members of the leadership team have participated in the completion of an extensive body of work that aligns elementary curricular materials to the Washington State Science Learning Standards. This middle school alignment project is a direct

extension of the prior work done in aligning elementary curricular materials. Each Development Leadership Team member currently serves in a leadership capacity in their individual science learning communities.

In addition, three Regional Alignment Team Leaders were selected to facilitate each of the three alignment processes and documents: Mike Brown from ESD 105 (STC/MS); Wendy Whitmer from the NEWESD 101 (FOSS), and Dixie Reimer of ESD 113 and North Thurston Public (SEPUP). These individuals were selected on the basis of their high levels of science expertise, long-term, active support of science education reform in Washington State and demonstrated instructional expertise. Each is highly respected and seen as an exceedingly knowledgeable and competent science instructional leader in their communities and Washington State. They have actively participated in state-wide science projects such as the development of the Washington State Science Learning Standards, the OSPI Instructional Materials Review, and development of the Washington State Science Assessments, leadership institutes and conferences. Each is deeply invested in supporting Washington State teachers with the tools and expertise they need to provide the highest quality science instructional opportunities to every student, every day. All individuals on the Development Leadership Team and the Regional Alignment Teams are listed in Appendix B.

The Development Leadership Team met on three separate occasions in the months of April, May and June, 2010 to develop and finalize the alignment tool and process, provide input and strategic planning for the Phase II professional development and in support of individual alignment teams. A calendar of events and detailed minutes of these meetings can be found in Appendix C. Through an interactive, inclusive discussion and a negotiated process, an alignment template was designed containing the following items: *curriculum, unit/module, EALR/domain, standard designation, standard content, performance expectation, lesson # or designation, evidence of alignment, alignment status and alignment comments*. It was unanimously decided not to include a specific section for assessment data. The ESD 105 science and technical staff worked in close conjunction to develop this highly interactive and useable alignment tool. (See the electronic document at: <http://www.wastatelaser.org/support/alignment.asp>.) This document can be sorted in multiple ways to include by standard, unit and lesson to facilitate use for the larger community. The alignment documents developed with this template will serve as the database for the At-A-Glance documents found in Appendix F.

Phase II: Professional Development on Process and Statewide Alignment for Alignment Teams

The Development Leadership Team designed the framework for both the process and specific professional development materials used to provide alignment team members with the skills and information needed to complete the alignment. To ensure consistency across alignment teams these meeting materials were used by all three teams. All teachers on the alignment teams received similar professional development prior to beginning work on the alignment itself. Additionally the Project Manager was present at each meeting to answer questions and support the consistent application of all protocols and agreements for each team. Representative examples of the professional development materials and standardized process and criteria documents provided participants can be found in Appendix D and E include:

- A representative agenda (example from the FOSS professional development)
- Norms of collaboration-suggested and defined
- PowerPoint for introductory session (example from the SEPUP professional development)
- Introductory or trust building activities
- Instructions for electronic alignment tool (example from the STC/MS professional development)
- Standardized MS alignment process agreements

- Criteria for rankings of curricular materials for alignment
- Standardized MS alignment sentence stems
- Spiral bound copy of the Washington State Science Learning Standards
<http://www.k12.wa.us/Science/Standards.aspx>.

These materials are an integral part of the completed work done for this project and may be modified and used to provide professional development for administrative and teaching staff as needed.

Phase III: Regional Alignment

During this phase, the three Regional Alignment Leaders, in coordination with the Project Manager, recruited teams of middle school teachers of science to complete the alignment. Criteria for inclusion on the regional teams included but were not limited to:

- Having had at least two years of experience teaching the module to which they were assigned to align
- High levels of content knowledge in the sciences
- Experience with student development of inquiry skills
- Expertise in the use of formative classroom based assessments
- Ideally one or more team member(s) would have participated in state level support of science (SALT, SCIF, or Instructional Materials Review)

Team members and assignments are found in Appendix A.

The Regional Team Leaders coordinated and led alignment meetings for each of their specified instructional material. These multi-day meetings brought together classroom teachers, teacher leaders and professional development providers all of which have extensive knowledge of their identified set of instructional materials. All alignment work was done in full compliance with the standardized MS alignment documents found in Appendix E. Fully supported by the professional development outlined in Phase II, pairs of teachers began and completed the alignments. It was the expectation that each team member, within a given pair, would first read and collect evidence of alignment individually, then discuss their findings with their partner and make a final alignment decision along with comments as indicated. This process assured that each individual aligner's thinking was transparent and discussed. All alignment decisions were based on direct evidence found in the core curricular materials only. Alignment comments were to support the teacher to provide learning opportunities for their students that reflect the Washington State Science Learning Standards and best practices in science education. To support formative assessment within the classroom, mention of specific curricular questions or items that best demonstrated student understanding of a specific concept found in the standard may be delineated for use by the teacher. The alignments do not go beyond the materials found in each module or set of instructional materials. Completed alignments can be found at: http://www.wastatelaser.org/support/MS_Project.htm.

In addition to the actual alignment documents, it became clear during the process that there were generalized comments that would support the implementation of these instructional materials. With this in mind, comment coversheets were developed for each set of aligned instructional materials. These comments will inform instruction and should be used in coordination with the alignment document. These documents can be found in Appendix G and at http://www.wastatelaser.org/support/MS_Project.htm.

Following the alignment work, the Regional Team Leaders carefully reviewed and vetted their team's documents for accuracy of content, use of direct evidence from materials, accurate and complete coverage of materials and formatting. Whenever possible, documents were reviewed and vetted by other actively practicing teachers as well as the Regional Team Leader. A final generalized review was completed by the Project Manager. During this process, there was significant agreement between those having done the alignment and those doing the vetting reviews. Overall, only minor changes were made in formatting, use of vocabulary, evidence citations and inputting errors.

At-a-Glance documents were developed based on the completed alignment documents and provide a summarized, graphic representation of the findings of the alignment teams. The At-a-Glance alignment symbols are the same as those used in the overall alignment (see key on each At-a-Glance document and Appendix E-Alignment Criteria) and meet the same criteria for the alignment of the entire module rather than a specific lesson, activity or unit found within a module. Modules were evaluated as a whole and given an overall score reflective of the highest level of alignment for any one lesson, activity or unit within that module for each standard. For example, if the module had four entries for the Inquiry Standard, INQB, and two were "Aligned as Designed" and two "Aligned with Modifications" the At-a-Glance document would reflect the "Aligned as Designed" designation. These documents are designed to provide easily accessible information that will support state-wide and district administrative staff as they prepare to evaluate, select and/or supplement instructional materials. A draft document was sent to the entire Leadership Development Team for review and feedback. Their input was incorporated into a second draft document which was reviewed, edited and evolved into the finalized At-a-Glance document for each set of instructional materials. These documents can be found in Appendix F and at http://www.wastatelaser.org/support/MS_Project.htm.

Phase IV-Statewide Review and External Evaluation

During Phase IV the Project Manager along with the support of Mike Brown and the technology staff at ESD 105, compiled the alignment documents to include: the alignment itself, the coversheets and the At-a-Glance documents. The Project Manager planned and facilitated a meeting of science education experts and teachers to review the final documents and report. These experts identified potential areas of improvement and additional supports that could be added to the alignment documents. The input from this meeting was heard and evaluated by the Project Leadership Team and incorporated into the alignment tool, documents and report. The final documents are to be shared specifically with the Regional Science Coordinators and the Washington State LASER Directors. They are now open for public use at <http://www.wastatelaser.org/support/alignment.asp>.

Phase V-Final report and publication

The final report describing the process, as well as the professional development materials, alignment tools and criteria used to do this alignment has been completed by the Project Manager, Mary McClellan, along with all supporting documents found in the following appendices:

Appendix A-Modules Aligned

Appendix B-Leadership and Alignment Team

Appendix C-Calendar of Events and Minutes to Meetings

Appendix D-Professional Development Materials (representative examples of norms, introductory materials, PowerPoint, agenda, and instructions for use of electronic tool)

Appendix E-Standardized Criteria for Process, Alignment Ranking and Sentence Stems

Appendix F-At-a-Glance Documents (FOSS, SEPUP, STC/MS)

Appendix G-Coversheet Documents (FOSS, SEPUP, STC/MS)

The final report and all documents can be accessed at the Washington State LASER website:
http://www.wastatelaser.org/support/MS_Project.htm.

This project simply would not have been possible without the outstanding and on-going support of the Regional Team Leaders and their associated organizations. They each have my deepest respect and gratitude.

Michael Brown, Regional Science Coordinator, ESD 105

Dixie Reimer, Science Instructional Coach, No. Thurston School District and ESD 113

Wendy Whitmer, Washington State LASER Alliance Co-Director and Science Specialist,
NEWESD 101

It seems teachers are often willing and able to share their expertise and wisdom with the larger community. This is exactly the gift each of the teachers participating in this project has brought to the students, parents and educational community of Washington State. We owe you a debt of gratitude and can only say “thank you”.

An additional note of recognition and gratitude to Washington State LASER and the Educational Service District system that continues their excellent record of support for science education, students and teachers of science even in these most challenging financial times. You are strong advocates for what is needed and best for our students.

Respectfully submitted:

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