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Proficiency-Based Graduation Requirement Hierarchies Development Process

Introduction

The exemplar Proficiency-Based Graduation Requirement (PBGR) Hierarchies support equity by providing a cohesive and coordinated vision of student-centered learning across Vermont schools. The hierarchies serve as a foundation for the implementation of standards adopted by the Vermont State Board of Education, Local Comprehensive Assessment Systems, flexible pathways, and personalized learning plans. The Agency of Education recognizes the considerable time and effort that educators and other stakeholders across the state have already put forth developing proficiency-based learning systems and this work is intended to serve as a resource for SU/SDs to consider as they reflect on the key concepts and skills that students should develop within each content area. It is important to note that while there is a separate hierarchy for each disciplinary content area, the hierarchies work together to support student proficiency in those attributes described in a Vermont Portrait of a Graduate (PoG).

Process

The first step in the process of developing PBGR Hierarchies involved the creation of content area PoGs. The Vermont Agency of Education (AOE) did this by reading the Vermont PoG through a content lens, comparing the PoG indicators with national content standards, and identifying those indicators that could best be addressed within that content area (e.g., A Vermont Portrait of a Graduate through the lens of Social Studies). The AOE integrated these content area PoGs, State Board approved national standards, and other research to define what it means to be literate within each disciplinary content area. Each literacy statement was pared down to its essential elements, resulting in one PBGR for each content area. Once the PBGR was developed, the AOE identified the Critical Proficiencies (CPs) that would support the teaching and learning related to that PBGR. The AOE developed Priority Performance Indicators (PPIs) for each CP, based on national standards, research, and input from the field. While the PPIs will be formally assessed to develop evidence of student proficiency, all standards have a place in the curriculum and in student learning. Throughout this process, attention was also given to how transferable skills could be interwoven throughout each PBGR Hierarchy. The construction of these hierarchies was an iterative process, taking on many different stages with educator feedback and internal review being essential components of that process.

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PBGR Hierarchies

The Arts

In 2014, the National Core Arts Standards (NCAS)s were introduced by the National Coalition for the Core Arts Standards (NCCAS). These standards are conceptual in nature and are designed around artistic processes, providing a solid foundation to foster literacy in Dance, Media Arts, Music, Theatre, and Visual Arts. The development of the Arts PBGR Hierarchy stemmed from the NCAS, serving as a representation of all content areas under one comprehensive umbrella.

The Critical Proficiencies within the Arts PBGR Hierarchy are directly derived from the NCAS artistic processes, maintaining uniformity in their description across all arts disciplines. Similarly, the Priority Performance Indicators are taken from the NCAS Anchor Standards, which are deemed essential in supporting artistic literacy upon graduation.

The primary objective of the Arts PBGR Hierarchy is to integrate all content areas cohesively. To achieve this, verbs from the identified Anchor Standards were drawn from the Enduring Understandings present in all art disciplines. These verbs were thoughtfully refined to construct coherent sentences that honored the original intent of each Anchor Standard in the arts.

Given that the Arts PBGR Hierarchy represents all arts disciplines, it is crucial for educators specializing in each art form to devise a customized roadmap. They should utilize content specific NCAS Performance Indicators to delineate how students can achieve the necessary artistic literacy required for graduation. This individualized approach ensures a well-rounded and meaningful educational experience for students across the arts spectrum.

English Language Arts

In 2020, Student Achievement Partners (SAP) put out guidance suggesting K-12 English Language Arts (ELA) educators focus their instructional time and efforts on those Common Core State Standards (CCSS) for ELA that directly address the major work of ELA and literacy instruction: learning to read; close reading of content-rich, complex texts; and reading a volume of information-rich texts to build knowledge and exposure to academic vocabulary in the content areas (SAP, 2020). The CPs identified in the ELA Hierarchy represent the four strands of the CCSS for ELA: Reading, Writing, Speaking and Listening, and Language; the accompanying PPIs are based on the CCSS College and Career Readiness Anchor Standards for ELA. This helps with vertical alignment because the Anchor Standards can be easily adjusted to fit a specific grade band or level. Each PPI is composed of one or more Anchor Standards, either in whole or in part. The decisions about which standards to include in the PPIs were made based on input from research, including the recommendations from SAP, as well as input from the field.

While not all standards have been prioritized, each standard is represented at least once in the PBGR Hierarchy; the standards listed in parentheses following each PPI are the ones directly connected to that PPI, while the standards listed in italics are those that are recommended as supporting performance indicators, which can be used in teaching the PPI. For example, the PPI for reading called Textual Evidence is composed of Anchor Standard R1 in its entirety, with R2,

3, 9, and W9 recommended as supporting standards; Summary and Analysis, on the other hand, is a combination of Anchor Standards R2 and R3 with R9 recommended as a supporting standard. It is important to note that, while the Common Core requires students to read complex literary and informational texts, a broader definition of text includes "any form of communication that humans create. Whenever humans engage in any act of communication, a text serves as the vehicle for communication" (Purdue OWL, 2022). This definition of text (which includes images, verbal communication, etc.) should be considered whenever literary or informational text is not specified.

Financial Literacy

In 2019, the Agency of Education began a two-year collaboration with Champlain College's Center for Financial Literacy and Vermont K-12 educators. The intent of this work was to align the Vermont State Board of Education (SBE)-adopted Jump$tart National Standards in K-12 Personal Finance Education to performance indicators, proficiency-based graduation requirements (PBGRs), and personalized learning. Since the SBE adopted the standards with the understanding that the teaching and learning of personal finance would be interdisciplinary in nature, this work was developed by educators specialized in the fields of Social Studies, Mathematics, Family and Consumer Science, and Business, as well as through the lens of special educators.

The Financial Hierarchy Proficiency PBGRs and Priority Performance Indicators (PPIs) have been streamlined to recognize both the work of the previous collaboration as well as the inherent overlap of content within personal finance. For example, the Budgeting PPI incorporates aspects of Earning Income, Spending, and Saving. While Investing is a focus of the budgeting process, it is recognized within the Future Planning proficiency. This intentionally recognizes the expertise of the educator, allows for spiraling of content, and enables students to make authentic content connections within the realm of financial decision-making.

Mathematics

The Critical Proficiencies in the mathematics hierarchy represent the five conceptual categories laid out in the Common Core State Standards for Mathematics at the high school level: Number and Quantity, Algebra, Functions, Geometry, and Statistics and Probability. The PPIs supporting each CP are tied to the CCSS and are clearly annotated. The PPIs were chosen based on careful examination and comparison of the following sources:

- High school mathematics standards from the CCSS,
- Proficiency-based graduation requirements already written by schools and districts around the state,
- The work of the Essential Math for College and Careers program, and
- SAP/Achieve the Core's Widely Applicable Prerequisites.

In addition to this research, input was taken from the field on initial drafts and used in the final selection of the PPIs. It is important to note that while the PPIs list only content standard clusters, the mathematics practice standards outlined in the CCSS are equally important. The practice standards are:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics, Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

A mathematically literate person is proficient in the areas outlined in the content-based PPIs and is also skilled in the habits and ways of working outlined in the practice standards. Many of the practice standards also connect easily to the Transferable Skills Graduation Requirements.

Science

Vermont adopted the Next Generation Science Standards (NGSS) in 2013. Inherent in the NGSS design is a 3-dimensional structure built on disciplinary core ideas (DCIs – aka content), science and engineering practices (SEPs), and crosscutting concepts (CCCs). The science PBGR Hierarchy was developed to integrate these 3 dimensions. The overarching statement of the PBGR reflects the overarching goals for our students as they develop scientific knowledge and skills and become scientifically literate individuals.

The Critical Proficiencies (CPs) are based on the four crosscutting concepts: Structure and Function, Cause and Effect, Energy and Matter, and Systems and System Models. While all of the CCCs are important, these four CCCs were chosen as they naturally support and integrate the other crosscutting concepts, as well as provide a strong bridge to the DCIs and the SEPs deemed most valuable for all students to demonstrate proficiency in before graduation. Additionally, the CPs provide a solid foundation on which to develop a cohesive vertical alignment of curriculum that can be met through specific standards and/or across grade levels.

While all performance expectations published in the NGSS are important, the Priority Performance Indicators (PPIs) in the PBGR Hierarchy document incorporate the performance expectations that have been deemed most important for *every student* to understand to be a conscientious consumer of science and positive community member. This determination was based on identifying what science concepts are most prevalent in our society or to understand the how and why of everyday phenomena such as climate change, how our bodies work, human impacts on the environment, and the interconnectedness of Earth's systems.

The SEPs should always be incorporated into your field of study. While some are distinctly incorporated into some of the PPIs, they are not as prevalent as deemed necessary. By definition of science, in order for students to truly understand the science they are taught in the classroom, it is essential that students engage in science and engineering practices in every science class that they take.

Social Studies

In 2017, the Vermont State Board of Education adopted the College, Career and Civic Life C3 Framework for Social Studies State Standards (C3) to guide the teaching of civics, economics,

geography, and history within Vermont. The Framework is structured around an Inquiry Arc which allows students to develop the skills necessary to analyze, explain, argue, and take action within these disciplinary content areas.

The development of the Social Studies Hierarchy has been an iterative process commencing with the work of Vermont K-12 educators in 2017. The inquiry and content PBGRs and Proficiencies developed by this group of educators were shared with the field for vetting; after editing, this work was then shared on the AOE web site as a sample set of PBGRs for use across the state.

The Social Studies Hierarchy has streamlined the work of the previous educators to create a more narrowed set of Priority Performance Indicators (PPIs) that still recognize the importance of all four disciplinary areas as well as the skills inherent to the inquiry process. Overlap within the C3 standards skills and content areas has been addressed for ease of use. For example, historical thinking requires the use of evidence to answer questions and develop arguments about the past. We recognize the importance of the integration of historical evidence and have eliminated duplicity and included the history indicators within the Inquiry Proficiency.

Health and Physical Education

The PBGR hierarchies for these content areas will be developed with educators and stakeholders from across the state in 2024. SHAPE National expects to release new Physical Education standards in March 2024. The National Consensus for School Health Education published a revised 3rd edition of the National Health Standards this summer. SHAPE National is expected to release another revised edition of the National Health Standards in Spring 2024. The health PBGR hierarchy will be created after a review of both health standards can occur.