

Exhibit 18: Processes for Approving Fourth Grade Instructional Materials for Mathematics and Science

Reported by National Research Coordinators

| Country | Description of Process |
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| Armenia | A competition is announced for selecting a textbook and the Ministry of Education and Science chooses and approves textbooks. |
| Australia | No process for approving instructional materials |
| Bahrain | Instructional materials are approved by the Curricula Directorate in the Ministry of Education. For mathematics, this includes student exercises and teacher guides. For science, this includes student textbooks, practical activity textbooks, and teacher guides. |
| Belgium (Flemish) | No process for approving instructional materials |
| Bulgaria | The Bulgarian Ministry of Education and Science approves up to three textbooks (with their supplements) for each subject and for each grade for teachers to choose among. |
| Canada | There are processes for approving instructional materials in all of the provinces except Newfoundland and British Columbia. In Quebec, the Bureau d'approbation du matériel didactique (BAMD) evaluates and approves instructional materials using criteria approved by the Minister (developed in accordance with the orientations and content of programs of study that have received ministerial approval). In Alberta, any proposed instructional materials go through an internal evaluation before they are signed off to be authorized. In Ontario, the Trillium List lists textbooks approved for use in Ontario schools. These textbooks have been evaluated and approved for congruence with curriculum policy, and comply with detailed criteria for content and format. English language and French language schools have a separate list of approved textbooks. |
| Chile | Approval of instructional materials such as textbooks, workbooks, and online materials occurs every four years. Textbooks are developed by different publishers and the Ministry of Education teams (CPEIP, DEG, and UCE) select two or three of the textbooks submitted by publishers. Then, an external institution selects one of these textbooks. Materials are also corrected every year by ministry professionals; textbooks and workbooks are improved every year when they are reprinted and online materials are corrected constantly. |
| Chinese Taipei | Before publication, textbooks have to be reviewed and approved by the Textbook Reviewing Committee set up by the National Academy for Educational Research authorized by the Ministry of Education. |
| Croatia | The School Textbooks Board and expert committees for each individual subject or area are in charge of evaluating textbooks. Approval of new textbooks is conducted according to the elements and instruments for textbook and handbook evaluation, and in correspondence with textbook standards, educational programs, and goals. Members of the board are elected by the Ministry of Science, Education, and Sport. |
| Cyprus | Syllabi, curricula, and textbooks for mathematics and science are prescribed centrally by the MoEC. In particular, the Curriculum Development Unit is responsible for the publication of curricula, the writing, editing, and updating of instructional textbooks, the production of educational material for teachers and students at all levels, and the purchase of instructional textbooks, where necessary. Content for the mathematics instructional materials are initially evaluated by academic experts in the field. Mathematics textbooks are evaluated by teachers at the end of the school year, and re-evaluated in their second year of use so that teachers can suggest revisions. Textbooks are revised according to suggestions from the evaluation. The science curriculum working group prepares lesson plans, workbooks, and online materials and submits them to a special committee for approval. If approved, the materials are printed and/or uploaded to the Internet. |
| Czech Republic | There is no process for approving instructional materials. However, the Ministry of Education, Youth, and Sports has developed a formal certification process to approve educational materials. The producers of educational materials (especially textbooks and practice books) can undergo the certification process for free. Because certification declares rightness and accuracy of the educational material content, certified instructional material comes with prestige. While schools can use any instructional materials they wish, schools tend to use these Ministry-approved materials. |
| Denmark | No process for approving instructional materials |
| England | No process for approving instructional materials |
| Finland | There is no process for approving instructional materials. However, the main materials for teaching science and mathematics are textbooks published by commercial publishers, who must comply with national curriculum guidelines. |
| France | No process for approving instructional materials |
| Georgia | The National Curriculum and Assessment Center has a rigorous and uniformly applied process for approval of textbooks and instructional materials. Experienced, practicing classroom teachers, and higher education faculty knowledgeable about research on mathematics/science learning and teaching analyze the textbooks. |
| Germany | Textbooks must be approved by the Ministry of Education and Cultural Affairs. The process for approval varies by state. In North Rhine-Westphalia (largest population), textbooks are regulated by the Ministry of Education and Cultural Affairs (Ministry of Schools, Youth, and Children) after being judged by authorized specialists. |
| Hong Kong SAR | Mathematics and science textbooks are vetted by appropriate Textbook Reviewing Panels of the Education Bureau's Textbook Committee, made up of experienced teachers. Publishers may submit proposed mathematics and science textbooks to the Education Bureau for review. Textbooks that comply with the curriculum and acceptable standards are classified as "Recommended" and included in a Recommended Textbook List as a reference for schools. |
| Hungary | Textbooks must be accredited by the Ministry of Education's Educational Authority. |
| Indonesia | Textbooks must be approved by the Board of National Standards for Education (BSNP). |
| Iran, Islamic Rep. of | Mathematics and science textbooks are evaluated and prepared by Mathematics Council and Science Council in the Organization for Educational Research and Planning, respectively. Approved textbooks are then accredited by the organization. |

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Exhibit 18: Processes for Approving Fourth Grade Instructional Materials for Mathematics and Science (Continued)

| Country | Description of Process |
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| Ireland | There is no process for approving instructional materials. However, the National Council for Curriculum and Assessment provided specifications for publishers following the launch of the Primary School Curriculum (1999). These specifications were intended to support publishers in developing instructional materials that reflected the philosophy and aims of the science and mathematics curricula. However, the extent to which the specifications are reflected in materials is not monitored. |
| Italy | No process for approving instructional materials |
| Japan | Textbooks must pass a sequence of evaluations before receiving approval for use in Japanese schools. First, companies submit drafts of proposed textbooks to the Ministry of Education, Culture, Sports, Science, and Technology. There they are checked in accordance with the Courses of Study by an official council composed of university professors and teachers. Once revisions are complete and the textbook has received approval, local boards of education select books from a list of authorized textbooks for schools under their jurisdiction. The authorization process is generally conducted every four years, with results presented to the public the following year. |
| Jordan | Textbooks and e-material teacher guides are developed by experts, reviewed by the steering committee, and approved by the educational council. |
| Kazakhstan | Textbooks for mathematics and science instruction are approved by Ministry of Education and Science of the Republic of Kazakhstan. |
| Korea, Rep. of | Textbooks are developed based on education guidelines pursued in the curriculum of the Ministry of Education (MOE). Currently, mathematics and science textbooks for elementary schools are developed by a government-designated institution. Workbooks for mathematics and science classes and guidebooks for teachers are developed along with the textbooks. Online materials are provided by the office of education. For science, digital textbooks were developed for Grades 3, 4, and 5, and piloted in research schools. |
| Kuwait | Textbooks are approved by the educational research and curricular sector at the Ministry of Education before circulation to schools. |
| Lithuania | In order to be included in a textbook database, the textbook must receive positive reviews from independent experts and confirmation of the Lithuanian language committee, stating that the textbook corresponds to the language standards. The choice of the textbook used for learning is the responsibility of the teaching staff, and schools and teachers can choose from a wide range of textbooks in the database. |
| Morocco | Textbooks and other digital and didactic materials are accredited by the Ministry of National Education. |
| Netherlands | There is no process for approving instructional materials, but the Institute for Curriculum Development (SLO) describes and evaluates most methods. Schools can decide which instructional materials to use. |
| New Zealand | No process for approving instructional materials |
| Northern Ireland | There is no process for approving instructional materials. However, the Council for Curriculum, Examinations, and Assessment (CCEA) has produced a number of materials to support schools in selecting instructional materials. Organizations can apply for an endorsement from the CCEA if they want their materials to be approved. |
| Norway | No process for approving instructional materials |
| Oman | Mathematics and science textbooks and other educational materials are produced by the Ministry of Education. These textbooks are then purchased and distributed to schools. |
| Poland | Textbooks are approved by the Ministry of Education based on reviews. |
| Portugal | Textbooks must be approved and certified by the General Directorate of Education (DGE) of the Ministry of Education. Schools can then choose from the approved and certified textbooks. |
| Qatar | There is no process for approving instructional materials for mathematics. Science materials are reviewed and revised by curriculum specialists at the Education Institute, Supreme Education Council. |
| Russian Federation | Acting and new textbooks, as well as educational and methodological support materials (workbooks, online materials), are reviewed by experts in terms of their correspondence with standards adopted in 2011 for mathematics and science by the Russian Academy of Sciences, Russian Academy of Education, methodologists in mathematics, and experienced teachers. A federal list of textbooks is recommended for school use based on this review. |
| Saudi Arabia | Instructional materials are approved by Mathematics and Science Project Managers, the Agency of Development, and the Minister of Education. |
| Serbia | Publishers submit textbooks to the Ministry of Education and Science. Drafts are then delivered to the Institute for Improving Education, which prepares a professional evaluation according to prescribed quality standards. The drafts and evaluations are then passed to the National Educational Council (NEC) and the Ministry, where the Minister approves those textbooks recommended by the NEC. Teachers are allowed to choose the textbooks they are going to use for instruction from the list approved by the Ministry. |
| Singapore | For each revised syllabus, publishers are invited to develop and publish textbooks and activity books/workbooks for use in schools. These materials undergo a stringent review and authorization process by the Ministry of Education. Only those that meet the quality standards and requirements of the respective syllabuses are approved. |
| Slovak Republic | The use of textbooks is not compulsory. However, the Ministry of Education, Science, Research and Sport of the Slovak Republic (MoE) announces competitions for textbooks with specific requirements and various authors can apply. Once approved by a specially assembled committee and two reviewers, authors submit draft textbooks to the National Institute for Education (NIE) or National Institute for Professional Education (NIPE). If requirements are met, NIE or NIPE complete an approval report used by MoE to issue an "approval clause." There can be various textbooks with an approval clause for a particular subject. Approved textbooks are listed in a national register of textbooks from which schools may choose and receive textbooks free of charge. The MoE is allowed to pass a "recommendation clause" for a textbook. If a school chooses a textbook without a recommendation clause, the school pays full price for the textbook – there is no refunding from The Ministry of Education. |

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Exhibit 18: Processes for Approving Fourth Grade Instructional Materials for Mathematics and Science (Continued)

| Country | Description of Process |
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| Slovenia | Textbooks and workbooks used in schools must be approved by the National Expert Council for the General Education. To be approved, textbooks and workbooks are independently reviewed by subject matter specialists regarding content, coverage of the curriculum objectives, and design, and assigned by the Ministry for Education. |
| South Africa | The National Department of Basic Education compiles a catalogue of Learning and Teaching Support Material (LTSM) which includes a variety of learning and teaching materials (wall charts, workbooks, textbooks, e-books, readers, stationery, science kits, dictionaries, encyclopedias, etc.). The process of LTSM development may be undertaken by commercial companies, non-governmental organizations, and Open Educational Resource initiatives, as well as by internally producing/commissioning the development of LTSM for subjects where necessary, i.e. state publishing. The national and provincial departments of education only provide materials that pass appropriate evaluation and quality standards. |
| Spain | Textbooks must be approved by the Educational Board. |
| Sweden | No process for approving instructional materials |
| Turkey | All textbooks must be approved by the Board of Education. In the approval process, an expert commission examines the textbooks electronically with respect to standards. This system is called the panel system. Apart from the panel system, instructional materials are examined by commissions constituted in the Board of Education. |
| United Arab Emirates | Inspectors check all instructional materials and review a series of textbooks and online materials from neighboring countries. |
| United States | States use one of two methods to select the textbooks and materials used in their schools. The majority of states allow school districts or schools to choose the textbooks they will use. A number of states (19 states in 2015) have a process for approving or recommending textbooks and materials to be used in local districts and schools. The school district role in approving textbooks also varies. School districts in many of the states have a process for approving or recommending textbooks and materials, while other districts leave the decision to individual schools. The Common Core does not specify which instructional materials should be used. |

Benchmarking Participants—Responses Pertain to Benchmarking Provinces/Emirates/States

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| Buenos Aires, Argentina | No process for approving instructional materials |
| Ontario, Canada | Ontario has a Trillium List containing the textbook titles approved by the Minister of Education. The textbooks have been evaluated in accordance with criteria specified in the Guidelines for Approval of Textbooks. Key eligibility criteria include the following: congruence with curriculum policy; provision of a teacher's resource guide; a Canadian orientation and product; and detailed criteria for content and format. Ontario has separate lists of Ministry approved textbooks for the English-language schools and the French-language schools. |
| Quebec, Canada | The Bureau d'approbation du matériel didactique (BAMD) evaluates and approves instructional materials using criteria approved by the Minister and developed in accordance with the approved orientations and content of programs of study. Seven aspects are taken into consideration in evaluating instructional packages submitted for approval: pedagogical aspects, sociocultural aspects, material aspects, advertising aspects, toponymical aspects, conventional aspects, and appropriateness of religious content. The approval system ensures that all materials comply with the provisions of the Education Act that concern instructional materials. The Ministère posts only the official list of approved materials on the BAMD website. |
| Abu Dhabi, UAE | A joint collaboration process with international publishing companies is used to create customized textbooks. Instructional materials are selected that align with the Learning Outcomes. Cultural vetting processes are carefully followed. |
| Dubai, UAE | Inspectors check all materials related to textbooks and other online materials. |
| Florida, US | Policies and procedures for the adoption of instructional materials are developed annually by the Department of Education. Selected subject areas are called for adoption each year on a rotating basis. Prior to each adoption, the Department of Education publishes the Instructional Materials Specifications for the subjects to be adopted. These specifications outline the courses for which materials are being sought, as well as the standards that those materials are expected to meet. State Instructional Materials Reviewers review and evaluate the materials submitted for adoption. The Commissioner of Education may accept the recommendations or amend them. Each Local Educational Agency (LEA) must spend at least 50% of its instructional materials allocation on digital or electronic products that are on the state adopted list. LEAs are free to spend the other 50% on materials having intellectual content which assist in the instruction of a subject or course. |

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