

**Exhibit 22: Main Preparation Routes and Current Requirements for Fourth Grade Teachers**

Reported by National Research Coordinators

Country	Main Teacher Preparation Route	Current Requirements				Description of Policy Changes Within Past 10 Years
		Supervised Practicum During Teacher Education Program	Passing a Qualifying Examination	Completion of Probationary Teaching Period	Completion of Mentoring or Induction Program	
Armenia	Most teachers receive their education through a university degree program. Some teachers attend a teacher college program.	Yes (approximately 2 weeks)	Yes	Yes (3 months)	Yes	Revised in 2013.
Australia	Most teachers receive a 4-year university degree in education, or complete a 2-year postgraduate qualification program following a 3- or 4-year non-education degree.	Yes (varies according to course)	No	Yes (varies by state, usually around 1 year)	No	In 2011, the decision was made to align teacher registration processes across states so that they become nationally consistent in terms of the broad requirements.
Bahrain	Teachers are required to hold a bachelor's degree in education and attend in-service training.	Yes	No	No	No	No change in policy
Belgium (Flemish)	Initial teacher education includes a 3-year college program for primary school teachers. In addition, continuing teacher-education courses allow teachers to acquire the necessary qualifications for a particular aspect of the teacher's profile. Every primary school teacher has to teach all subjects. Some private organizations led by volunteers and professionals have initiatives concerning study and support for special mathematics issues. Initiatives often involve lectures, conferences, and symposia.	Yes (3 years)	Yes	No	No	No change in policy
Bulgaria	Primary school teachers require at least a bachelor's degree in primary pedagogy (4 years).	Yes (150–240 hours)	Yes	No	No	No change in policy
Canada	In all Canadian provinces, the majority of teachers receive their education through a university degree program. However, teacher education requirements vary across the country and some provinces have greater requirements than others.	Yes	No	Yes (varies by province)	No	No change in policy
Chile	Teachers receive their education through a university or professional institute (tertiary education) degree program.	Yes (varies by program)	Yes	No	No	The new National Teaching Policy under consideration by Parliament in 2015 changes salaries, the definition of income requirements, the induction of new teachers, teacher evaluation and career advancement, and incentives for teachers.
Chinese Taipei	Most teachers attend teacher programs at universities. Some teachers attend a teacher program while they are in graduate institutes.	Yes (1 semester)	Yes	No	Yes	No change in policy
Croatia	Most teachers in Grades 1–4 receive their education through 5-year teacher college programs.	Yes (270 hours)	Yes	Yes (1 year)	Yes	The probationary teaching period was extended.
Cyprus	Grade 4 teachers are required to hold a university degree in education/pedagogy.	Yes (varies by university, usually 6 weeks)	No	Yes (varies, usually 4–6 years)	No	No change in policy
Czech Republic	Most teachers receive their education through a university degree program.	Yes (6–12 weeks)	Yes	No	No	No change in policy

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Denmark	Teachers are required to hold a 4-year bachelor of arts equivalent to 240 European Credit Transfer System (ECTS) credits. An upper-secondary level of education is prerequisite for admission to such a program.	Yes (24 weeks)	Yes	No	No	New teacher education programs were launched in 2013. A GPA requirement was instituted for admission to teacher education programs.
England	Teachers in Local Authority maintained schools must have a degree to obtain Qualified Teacher status and meet threshold General Certification of Secondary Education (GCSE) standards in English, mathematics, and science. Teachers in academy schools (state funded but independent of the Local Authority) do not need to be qualified.	Yes (24 weeks)	Yes	Yes (1 full-time school year or equivalent)	Yes	Prior to 2011, all state funded schools had to employ teachers with qualified teacher status. This was not a requirement for independent schools (Local Authority maintained and academies).
Finland	Most teachers receive their education through a university master's degree program in education. Subject teachers (e.g., Master of Arts, Master of Science) can also work as classroom teachers in the fourth grade after completing diversified studies.	Yes (27 ECTS including 100 hours teaching)	No	No	No	No change in policy
France	Since 2013, the écoles supérieures du professorat et de l'éducation (ESPE; higher education of the teaching staff and education) offers a master's degree in Teaching Careers, Education, and Training. Recruitment is done through a competitive examination after the first year of the master's degree program. This is an alternate training at the master's level. One part consists of student teaching and the other part takes place at the university.	Yes	Yes	Yes	Yes	From 1991 to 2010, primary school teachers were qualified after obtaining a license and 3-year university diploma (Bac+3). From 2011 to 2013, primary school teachers were qualified after obtaining a master's degree (Bac+5).
Georgia	Most teachers receive their education through a university degree program.	No	Yes	No	Yes	Since 2014, every teacher at the general educational institution must pass a certification exam.
Germany	Teacher education in Germany is structured into two phases—university based study and partly supervised pedagogical training in a classroom (Referendariat), lasting from one to two years.	Yes (12–24 months)	Yes	Yes (2.5 years)	Yes	Teacher education in Germany has recently been restructured from a course of study ending with state examinations into a course of study generally comprising 10 semesters (5 years) and culminating in a master's degree in education (B.Ed. & M.Ed.).
Hong Kong SAR	Teachers receive their education either through a teacher college program or, more commonly, through a university degree program. It is the government's long-term policy to require all new teachers to receive professional training and hold a degree.	Yes	Yes	No	No	No change in policy
Hungary	Teachers receive their education through a bachelor's degree program. Before the Bologna process was established, a 4-year college program was required. Teachers of Grades 1–4 are trained in all subjects.	Yes (8–10 weeks)	Yes	No	No	The Bologna process was introduced in 2006. In 2013, the teacher education courses for elementary school teachers were reintegrated in 10 semester programs, comprising 8 semesters of study plus two additional semesters of professional teacher practice. This change was not applicable for the TIMSS 2015 students' teachers.

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Indonesia	Teachers receive a bachelor's degree (4 years) in education or another subject. Teachers with a bachelor's degree in a subject other than education must complete additional professional training and instruction in education/pedagogy to be certified.	Yes (1 year)	Yes	Yes (1 year)	No	No change in policy
Iran, Islamic Rep. of	Most teachers receive their education through teacher education programs or through universities with majors in primary education.	No	No	No	No	No change in policy
Ireland	Primary teachers complete their Initial Teacher Education (ITE) through one of two routes—1) Concurrent model: Completion of a 4-year Bachelor of Education program (ISCED level 6); or 2) Consecutive model: Those who have already completed a basic degree (ISCED level 6) complete a 2-year postgraduate Professional Master's in Education (PME) (ISCED level 7).	Yes (approximately 20 weeks)	Yes	Yes (at least 100 days)	Yes	Initial teacher education programs have changed from 3 years in duration to 4 years (ISCED 6 level) and in the postgraduate route, from 18 months to 2 years (ISCED level 7) for a Professional Master's in Education (PME). Participation in the national induction program was optional for all newly qualified teachers (NQTs) prior to the 2012/2013 academic year. All NQTs are now required to take part in the national induction program.
Italy	Preprimary and primary teachers must complete a 5-year university degree program in education (Laurea Magistrale in Scienze della Formazione Primaria) to be certified to teach. Students are required to attend a period of supervised practicum throughout years 2–5 of the course and to write a final report. The period of supervised practicum includes class observation activities, tutored teaching practice, and self-directed teaching activities.	Yes (600 hours)	Yes	Yes (1 year)	No	Before 2013 a specific training course (Tirocinio Formativo Attivo) was mandatory, but a university degree was not required. Since 2013, a university degree is compulsory and sufficient to become a fully certified teacher.
Japan	Grade 4 teachers must hold an elementary school teacher certificate and pass a teacher appointment examination offered by the local board of education.	Yes (4 weeks)	Yes	Yes (1 year)	Yes	No change in policy
Jordan	Teachers receive their education through a university degree program.	No	No	No	No	No change in policy
Kazakhstan	Most teachers receive their education through a pedagogical higher education institution or pedagogical college.	Yes (30 hours)	Yes	Yes (3 months)	Yes	In 2011, policy changes were enacted to incorporate continuous professional development into the teacher education system, including establishing communities of practice among Kazakhstani teachers.
Korea, Rep. of	Most teachers receive their education through a national university of education. Some receive their education through the department of elementary education in a teachers' college.	Yes (8–11 weeks)	Yes	No	Yes	No change in policy
Kuwait	Primary education teachers must hold a university degree from the Department of Education at the University of Kuwait College of Basic Education, or any equivalent university degree from another institution.	Yes (3 months)	No	Yes	Yes	No change in policy

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Lithuania	Most primary school teachers receive their education in pedagogical universities through a university degree program. There are also primary teacher college programs. Studies last for 4 years at a university (bachelor's degree) and 3 or 4 years at a college (professional bachelor's degree).	Yes (3 months)	No	No	No	In 2014, a new description for qualification requirements for teachers was approved by the Minister of Education and Science. One of the main changes was that pedagogical university students cannot be primary school teachers until they finish their studies.
Morocco	Teachers must hold a bachelor's degree, pass an entrance exam to gain admission to a training center (CRMEF), and graduate from the training center.	Yes (3 months)	Yes	Yes (1 year)	Yes	To be accepted into a teacher training center before 2012, the candidate had to have a DEUG (a diploma awarded after finishing two years of study at university), 1 training year, and pass the final exams at the training center.
Netherlands	Primary school teachers must hold a diploma from one of the primary school teacher training colleges (higher vocational education). This diploma allows teachers to teach K1 to Grade 6.	Yes (varies by program)	Yes	No	No	No change in policy
New Zealand	The most common preparation routes are either via a 3-year bachelor of education program (specializing in primary teaching), a 4-year conjoint degree program (e.g., Bachelor of Arts/Bachelor of Teaching), or a 1-year compressed graduate diploma program of study, which can be undertaken by candidates who already hold a university degree.	Yes (minimum 14 weeks)	No	Yes (at least 2 years)	Yes	No change in policy
Northern Ireland	Teachers complete a 4-year Bachelor of Education (B.Ed.-Honors) degree and a 1-year Postgraduate Certificate in Education (PGCE) course (both directed at primary level teaching).	Yes (18 or 32 weeks depending on B.Ed. or PGCE, respectively)	Yes	No	Yes	No change in policy
Norway	Most teachers attend a specific teacher college program to teach Grades 1–7 or Grades 5–10.	Yes (100 days)	Yes	No	No	Previously there was one program for Grades 1–10. In 2010, the program was separated into a program for Grades 1–7 and another program for Grades 5–10.
Oman	Most teachers receive their education through a university degree program. Some receive their education through a program at a teacher's college, but this is becoming less common.	Yes (1.5 years)	No	No	No	No change in policy
Poland	All teachers receive their education with at least a bachelor's degree through a university degree program.	Yes (180 hours)	No	Yes (1 year)	No	No change in policy
Portugal	All teachers receive their education through a university program and hold a masters or an equivalent degree in basic education.	Yes (1 academic year)	Yes	Yes (1 academic year)	Yes	Since 2013, all teachers who want to begin a teaching career at state endorsed schools must pass a qualifying examination.
Qatar	Teachers must have a bachelor's degree of mathematics or science. Primary school teachers have to finish 48 hours of training in an entry level teacher education program and another 48 hours in an advanced level teacher education program.	No	Yes	No	No	New teachers must have four years of supervised student teaching experience at the primary level and pass a qualifying examination before they can be officially employed as a teacher. They also must complete a series of training programs to strengthen their abilities in teaching and delivering information.

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Russian Federation	Most teachers receive their education through a 3- or 4-year teacher's college program or a 4-year university program.	Yes	Yes	No	No	Young teachers (up to 3 years after college or university graduation) are considered young professionals and are mentored by experienced teachers.
Saudi Arabia	Most teachers receive their education through a university degree program. Some receive their education through a teacher college program, but this is becoming less common.	Yes (1 year)	Yes	No	No	No change in policy
Serbia	Most primary school teachers have a degree from the Faculty of Teacher Training in colleges and universities, but in some schools a number of the older generation of teachers received their education in a Teacher Training academy (or college) or attended a 5-year Teacher Training vocational school.	Yes (250 hours)	Yes	Yes (up to 6 months)	Yes	Primary school teachers must have a master's degree (5 years) from a Faculty of Teacher Training if they started their education in 2005 or later. In previous years, basic studies (4 years) were sufficient.
Singapore	All prospective primary school teachers are required to undergo one of the following four pre-service teacher education programs conducted by the National Institute of Education, Nanyang Technological University. They can obtain either a 2-year Diploma in Education, a 4-year Bachelor of Arts/Science (Education), or a 1- or 2-year Postgraduate Diploma in Education.	Yes (at least 10 weeks)	Yes	Yes (1 year)	Yes	No change in policy
Slovak Republic	Primary school teachers (Grades 1–4) are required to graduate from a second stage of university study (5-year master's degree program usually from a Faculty of Pedagogy). Teachers are trained to teach all subjects at ISCED 1 (Grades 1–4) except for foreign languages.	Yes (varies by program, approximately 100 hours)	Yes	No	Yes	The act 317/2009 regarding pedagogical staff was approved. It defines pedagogical staff using a credit system as a) Eligibility of pedagogical employee; b) Professional and carrier development, attestation; and c) Continuous (life-long) education of pedagogical staff.
Slovenia	All teachers receive their education through a university degree program (5 years) and earn a teacher certificate. Teachers who finished their education before 1980 can finish teacher college programs while they continue to teach.	Yes (a few weeks, depending on the university program)	Yes	Yes (9 months)	Yes	No change in policy
South Africa	Most teachers receive their education through a university degree or diploma program.	Yes (9 weeks per academic year)	No	Yes (6 months)	No	The revised Minimum Requirements of Teacher Education Qualifications Policy (2015) provides guidelines for initial teacher education with two training options. Teachers may complete a 4-year Bachelor of Education (B.Ed.) degree, or complete an appropriate first degree, followed by a 1-year Advanced Diploma in Education, and register with the South African Council for Educators. This policy replaces the MRTEQP of 2011 and aligns qualifications for teacher education with the Higher Education Qualifications Sub-Framework (2013).

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Spain	Primary teachers must complete a 4-year university degree program.	Yes (6 months)	Yes	Yes (6 months)	No	One year was added to the university degree program in 2010.
Sweden	Teachers receive their education through a university teacher program.	Yes (20 weeks)	Yes	No	No	Since 2011 teachers must apply for a certificate from the Swedish National Agency for Education, which is necessary to obtain permanent employment and to grade students.
Turkey	Teachers receive their education through a university program.	Yes (1 school day per week)	Yes	Yes (1 year)	Yes	Beginning in 2015, if novice teachers successfully pass a probationary teaching period, they must pass an additional examination to become a full teacher.
United Arab Emirates	The main preparation route for teachers is through colleges of education.	No	No	Yes (2 years)	No	A minimum score of 6 on the International English Language Testing System (IELTS) academic examination became a prerequisite for teaching English at Grade 4.
United States	Teacher certification is managed by each state. These often include certification through a degree program as well as alternative certification routes. The majority of teachers at the elementary level receive a degree from a college of education within a university. However, it is not required that elementary teachers receive a degree from a college of education in order to be certified to teach. Candidates with any college degree may become certified to teach through an alternative teacher certification program.	Yes (varies by state)	Yes	Yes (varies by state)	Yes	No change in policy

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Buenos Aires, Argentina	Most teachers receive education through a tertiary degree program.	Yes (28 weeks)	No	No	No	In 2009, the length of teacher preparation programs was extended from 3 to 4 years.
Ontario, Canada	The main preparation route is through an undergraduate university degree from an accredited post-secondary institution, followed by the completion of a 1-year program offered by a Faculty of Education leading to a Bachelor of Education degree. Some post-secondary institutions offer a concurrent degree program. The government is implementing a 2-year initial teacher education program starting in fall 2015/2016.	Yes (40 days. In 2015/2016 2-year program will be 80 days)	No	No	Yes	Upon completion of the B.Ed. degree, prospective teachers join and obtain their Certificate of Qualification from the Ontario College of Teachers (OCT). Grade 4 teachers are qualified for Primary/Junior (1–6) or Junior/Intermediate (4–10).
Quebec, Canada	Teachers receive their education through a 4-year university program, specialized in early childhood (preprimary) and elementary (primary) education.	Yes (4 practicums, with the 4th practicum lasting 3 months)	No	No	No	Most of the school boards offer accompanying measures to facilitate the integration of young teachers into the world of work.
Abu Dhabi, UAE	All teachers must have a teaching license from their home country. The main preparation for teachers in the UAE is to go through colleges of education.	Yes (1 year)	No	Yes (6 months)	No	No changes in policy
Dubai, UAE	Teachers must have a university degree.	No	No	Yes (2 years)	No	Preparation now has a more rigorous approach.
Florida, US	There are two main preparation routes for Grade 4 teachers in Florida. The first route is to receive a bachelor's or higher degree with a major in elementary education, which includes teaching reading at the K-6 level. The second route is to receive a bachelor's or higher degree with 30 semester hours in elementary education to include a range of different areas pertaining to different subjects.	Yes (at least 10 weeks)	Yes	Yes (2 years)	Yes	No changes in policy

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