

**Certification Patterns of Grades K-8 Teachers
in Maine Public Schools**

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Introduction

Recent policy conversations have discussed the possibility of narrowing the grade span of Maine's Elementary Education teaching endorsement. The certificate currently qualifies an individual to teach math, science, English Language Arts, or social studies from grades K through 8 and has been proposed to be changed to grades K (or possibly pre-K) to 6. Before undertaking this change it was deemed appropriate to identify the number of current teachers who may potentially be negatively impacted by such a change.

Background

Maine's Elementary Education teaching certificate (endorsement number 020) has come under scrutiny from organizations such as the National Center for Teacher Quality¹ for having a grade span that is overly broad. The potential concern is that the academic knowledge, pedagogy, and skills that are most appropriate for teaching in early childhood are too different from teaching middle school, and that therefore the preparation requirements should be tailored more closely to the grade span being taught. Additional description of this challenge has been described in prior MEPRI reports (2017, 2019).

At the top end of the K-8 grade span (grades 7 and 8) the primary concern about the current certification requirements is that the minimum academic preparation is inadequate to ensure deep knowledge of the middle school curriculum. The endorsement requires six credits each in the four content areas of math, science, English Language Arts and social studies; this can be met through any passing grades in two introductory-level courses in each subject. A beginning middle level teacher with only that minimal level of academic background in a subject area may encounter curriculum content and concepts that they have not themselves studied at the college level, and may therefore struggle to teach.

¹ <https://www.nctq.org/publications/State-of-the-States-2021:-Teacher-Preparation-Policy>

On the other hand, proponents of the broader grade span note that the K-8 academic requirements represent only the minimum needed background. Most teachers at the middle grade levels do have significantly more academic background in the subject(s) they teach. In at least some cases, the grade 7 or 8 teachers who would be potentially impacted if their K-8 credential was changed to a K-6 credential already have the prerequisite number of college credits to readily obtain a middle level endorsement in their subject(s) (covering grades 5-8) as a bridge to remain certified to teach. In these cases, the actual impact of the policy change on their employment options would be substantially lessened, if not eliminated. It is suspected that a substantial proportion of the individuals teaching in middle school under a Elementary (K-8) endorsement already have a depth of subject knowledge and expertise that well exceeds the minimum content course requirements for an elementary certificate because most elementary education preparation programs already require that students choose a concentration in one subject area. For example, undergraduate elementary teacher preparation programs at the University of Maine, University of Maine at Farmington, and University of Southern Maine all require that students preparing for elementary teacher certification choose a concentration (or an academic major) in at least one subject area. These graduates will have the 24 credits in a core content area that are needed to obtain a middle level endorsement (Grades 5-8) in the related subject. In other cases, an individual may not have the full number of academic courses on a college transcript to qualify for a middle level (grades 5-8) subject endorsement, but they may still have gained deep subject matter knowledge through the course of years of experience teaching their subject. In these cases, the grade span of the K-8 credential allows a school to use a teacher in any of the four content areas in which they deem the teacher knowledgeable, regardless of their undergraduate major. Thus the K-8 grade span is helpful to schools to flexibly deploy teachers to teach classes when coverage is needed. Thus there is sometimes tension between the need to have teachers who have deep content knowledge and are subject-matter experts and the need to have flexibility to assign staff where they are most needed.

The staffing challenges are different at the lower end of the K-8 grade spectrum. Public schools are increasingly offering public pre-kindergarten programs to four-year-old students. However, the elementary K-8 credential does not qualify a candidate to teach at

the preschool level; they must have an Early Childhood Teacher certificate (endorsement #081) to cover ages birth to five. This creates the opposite problem where the elementary endorsement is not flexible enough to allow a school to shift staff as needed between pre-school and kindergarten grade levels unless they hold multiple endorsements. For this part of our analysis, we analyzed the extent to which the current teaching workforce might benefit from streamlining their credentialing requirements to combine pre-K and kindergarten grades in a single endorsement.

Methods

To investigate these questions we used certification and employment staff data provided by the MDOE to construct a data set that linked teachers in school year 2019-20 to the credentials they held in the same year. We identified all individuals teaching middle school (7th and 8th grade) core subjects (Mathematics, English Language and Literature, Social Sciences and History, Life and Physical Sciences). Using staff IDs we matched individual teachers to certification data to identify all credentials held by each teacher. We then examined their credentials to see how many were certified under an Elementary Education (Grades K-8) teaching endorsement (#020), and what additional endorsements they held. The guiding questions we sought to answer were:

- 1. How many grades 7 and 8 teachers of math, science, English, and/or social studies in 2018-19 were doing so under only a K-8 (Elementary) endorsement (020)?*
- 2. How many of those individuals teaching in grades 7 and 8 under an 020 endorsement would likely be eligible for a middle level (grades 5 to 8) or secondary (grades 7 to 12) endorsement for the subject they teach, based on their undergraduate major of study?*
- 3. How many teachers of grades pre-K and kindergarten have additional credentials that would allow them to change teaching assignments?*

The sample used includes teachers at regular public, Bureau of Indian Education, charters, state operated, and unorganized territory schools who teach core courses (Mathematics, English Language and Literature, Social Sciences and History, Life and Physical Sciences). For teachers in grades pre-K or kindergarten the subject of “Non-Specific” was

also included as this is commonly used to describe self-contained classroom teachers in elementary grades. Private school teachers were excluded in these analyses.

Unfortunately, upon compiling the information provided from MDOE it was immediately apparent that we could not address question 2 with the available data. At present, the Department does not have the ability to report the undergraduate major of study for individuals certified to teach in Maine. This means that while we were able to analyze certification patterns, we could not make any further inferences about how closely the credentials match the academic background of a given teacher.

Results and Findings

Middle Level Teachers

The tables below used the “subject” field from the staffing data to isolate teachers of the four core content areas (math, science, English, and social studies), and the “grade” field to further identify those in 7th or 8th grade. The total number of teachers is not an unduplicated count because some teachers teach more than one subject and because many teachers hold more than one type of endorsement. A “subject specific” certification means they are certified in the subject they are teaching.

During the 2019-20 school year, there were a total of 1,428 middle school teachers who taught a core subject: 404 who taught only 7th grade, 393 who taught only 8th grade and 631 who taught at both the 7th and 8th grade levels. Of all middle school teachers teaching in 2019-20, 40% (572) held an Elementary Education (grades K-8) endorsement as the qualifying credential for their content area. Table 1 below summarizes the types and combinations of credentials held by Maine’s grade 7 and 8 core subject area teachers.

Table 1. Certification status of Grade 7 and 8 Core Subject Teachers, by course subject taught

Type of teacher by subject	Number of Teachers	Elementary Education (Grade K-8) credential only	Secondary Subject-specific credential (Grades 7-12 or 5-8)	Does not hold either K-8 or 7-12 subject specific certification
Math	445	62%	31%	7%
Science	353	45%	48%	6%
English	455	48%	44%	9%
Social Studies	351	40%	54%	8%

A large proportion of math teachers (62%) had an Elementary Education (K-8) endorsement as their only qualifying credential. Half as many (31%) held a middle level or secondary mathematics credential—either alone or in addition to a K-8 endorsement—and the remainder (7%) were not able to be matched to an endorsement that would qualify them for teaching math. Somewhat smaller yet still sizeable proportions of science teachers (45%), English teachers (48%), and social studies teachers (40%) held only a K-8 endorsement. There is overlap between these core teachers (i.e. some teachers teach more than one subject, particularly in the middle school setting). So, for example, some of those teaching math under a K-8 credential may also teach science under a K-8 credential.

Each of the teachers in Table 1 that holds an Elementary endorsement to teach grades 7 and/or 8 could be impacted if their credential were to be limited in the future to include only grades K to 6. Because the available administrative data was not adequate to explore our second research question related to undergraduate preparation, we are unable to estimate how significantly these educators would be affected. Some of them have completed 24 or more academic credits of study and would be eligible to apply for a middle level or secondary endorsement to qualify them to continue to teach their subject area(s) in grade 7 or 8. This would involve some administrative burden to obtain the new credential but would enable them to remain credentialed for their current jobs. However, at least some of these teachers would *not* have the necessary academic background accrued on a college transcript to be able to secure another credential option to cover grades 7 and 8. In these cases, the teachers would have to switch assignments to a different grade level,

pursue additional college courses to met secondary academic requirements, or find another workaround to maintain eligibility for their positions. Given the current shortage of teachers these are not palatable options.

Early Childhood Teachers

During the 2019-20 school year, there were a total of 1,411 public school preschool or kindergarten teachers. The large majority, 75% (N=1,055), taught only kindergarten while 21% (N=302) taught only pre-kindergarten or preschool. A small proportion (4%, N=54) were listed as teaching both pre-K and kindergarten. Table 2 summarizes the credentials held by these teachers.

Table 2: PK and K teacher counts by endorsement category

Grade level of teaching assignment	General Elementary (K-8) but not Early Childhood	Early Childhood (Birth-5) but not K-8	Both Gen. Elem. & Early Childhood	Other Credential
Pre-K only (N=302)	9%	69%	20%	2%
Kindergarten only (N=1,055)	75%	13%	5%	7%
Both PK and Kindergarten (N=54)	48%	20%	11%	21%
Total (N=1,411)	60%	25%	8%	7%

Table 2 demonstrates that there are considerable barriers to allowing pre-K and kindergarten teachers to teach in either grade level. Only 25% of kindergarten teachers are also credentialed to teach pre-K, and only 29% of pre-K teachers have the flexibility to also teach kindergarten classrooms. This suggests that there is merit in the idea of expanding the elementary credential so that there is more overlap between the certification requirements of these two grades.

Conclusions and Policy Implications

As detailed in prior MEPRI reports (2017, 2019), there is reason for concern that the K-8 grade span of Maine's Elementary Education credential is too broad. The developmental needs and academic expectations of kindergarteners are substantially different from those of 8th graders, and the teacher qualifications needed for each grade level are similarly disparate. Prior research has convincingly established that the most effective secondary teachers have deep knowledge in their content area; the current minimum requirement of two college courses in a subject is not adequate academic preparation to teach it in 7th and 8th grade. Thus MEPRI has recommended that Maine's Elementary Education endorsement be narrowed in scope on the upper end so that grades 7 and 8 teachers have higher expectations for academic background.

However, this study also shows that a large proportion of Maine's 7th and 8th grade teachers would be potentially impacted by such a change. Furthermore, this study was unable to investigate the actual academic background of Maine's 7th and 8th grade teachers; we do not know what proportion of these teachers have *only* the minimum academic requirements. Given the typical structure of an elementary education preparation program, as well as the assumption that school administrators will hire teachers who they deem to be qualified for a particular classroom assignment, it is likely that the vast majority of middle school teachers do have academic preparation well beyond the minimum two-course requirements per subject.

Thus, MEPRI recommends that the state certification for elementary educators be amended, but that current teachers remain credentialed for the full K-8 grade span. There are two options for implementing this path. The first would be to revoke the K-8 credential at a certain point in time and replace it with a K-6 grade span, and to automatically issue both the new K-6 credential and the appropriate middle level (grades 5-8) endorsements for current K-8 certificate holders. This would ensure that this pool of individuals remains qualified for their positions. However, it would still involve a fair amount of disruption and confusion for the teachers, as well as administrative burden for the MDOE staff tasked with issuing the new certificates.

A simpler approach would be to phase out the K-8 endorsement not by revoking it altogether but by issuing it only to **renewing** credential holders. New graduates from

preparation programs, individuals moving to Maine from another state, and individuals reapplying for certification after letting their K-8 credential lapse would need to demonstrate that they meet all of the academic background requirements for whichever credentials they seek— elementary, middle level (grades 5-8), or secondary (grades 7-12). Current credential holders would need to diligently maintain their K-8 credential, even if not actively teaching with it, to take full advantage of this approach.

Our recommendation at the lower end of the elementary grade span is to expand eligibility for preschool teachers by including pre-K to increase the pool of candidates eligible to teach preschool. There are again two possible routes for this. The first would be to amend the elementary education credential to include pre-K when making the above suggested change to remove grades 7 and 8 from its span, so that the new span would be pre-K to 6 instead of K to 8. This would be the most expansive option for increasing the potential supply of pre-K teachers as there are a large number of elementary education (020) credential holders in Maine. However, similar to the logic for grades 7 and 8, there is an argument to be made that the preparation needs for pre-K teachers are too different from the needs of 6th grade teachers to be combined under the same set of requirements. By this rationale, it may be preferable to keep the elementary education credential to grades K-6 and instead amend the Early Elementary endorsement (code 029, currently grades K-3) to cover grades pre-K to 3. This would make it possible to identify a cohesive set of preparation requirements that apply to all of the early childhood grades, but not grades 4 to 6. The primary benefit to the latter approach would be making it easier in future to tailor the preparation requirements for early childhood more specifically to the needs of our youngest learners without impacting the expectations for K-6 credential holders who may seek to work with older elementary learners. The prior MEPRI studies (2017, 2019) focused only on the challenges of middle school and did not investigate the evidence base for preparation requirements for early childhood; therefore we are not able to recommend one of these approaches over the other. The primary consideration should be whether the minimum requirements for a credential are likely to provide adequate preparation for the given grade span, and not whether the grade span itself is convenient. However, the research base in the area of minimum teacher qualifications is not finely-tuned and this is likely a question of professional judgment rather than empirical research.

References

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