TO: Members of the Maryland State Board of Education

FROM: Karen B. Salmon, Ph.D.

DATE: December 4, 2018

SUBJECT: Pathways to Obtain a Maryland Certificate

PURPOSE:

The purpose of this item is to provide information to the State Board of Education (SBOE) members for discussion, and ultimately, determination of what pathways leading to initial Maryland Certification are aligned to the Maryland State Department of Education’s (MSDE) comprehensive plan to increase the rigor and accountability of educator certification and teacher preparation programs in Maryland.

HISTORICAL BACKGROUND:

Current Code of Maryland Regulations (COMAR) define six (6) pathways by which an individual in Maryland may qualify for initial certification. These pathways include Maryland approved educator preparation programs, out of state approved educator preparation programs, experienced professionals, completion of requirements defined via a transcript analysis, National Board Certification, and Maryland approved alternative educator preparation programs. While developed to open the educator pipeline, new initiatives focused on increasing the rigor of educator preparation programs and educator certification have been identified by the SBOE, the Professional Standards and Teacher Education Board (PSTEB), the General Assembly, and the members of the Commission on Innovation and Education Excellence. This discussion is the first of many that will shape the future certification requirements.

EXECUTIVE SUMMARY:

This item provides the necessary information for the SBOE members to engage in a discussion and, ultimately, make decisions about what will be the future pathways to obtain an educator certificate in Maryland. The presentation provides specific decision points so that the MSDE staff can develop policy and/or regulations related to the certification action plan which includes items identified by the MSDE, the SBOE, the PSTEB and recommendations of the Teacher Induction, Retention, and Advancement Act of 2016 Workgroup.
ACTION:

For discussion and approval.

Attachments (6):
- Educator Certification: Current Pathways for Obtaining a Maryland Certificate PowerPoint Presentation
- Routes to Certification Chart
- Reciprocity Chart
- Transcript Analysis Chart
- Teacher Effectiveness Predictors Literature Review (October 2018)
- Educator Certification: Overview Types and Progression of Maryland Certificates PowerPoint Presentation (Preview for January SBOE Meeting)

KBS: sds
Educator Certification:  
Current Pathways for Obtaining a Maryland Certificate
Current Pathways for Obtaining Initial Certification

Maryland Approved Educator Preparation Program
Out of State Approved Educator Preparation Program
Experienced Professional
Transcript Analysis
National Board Certification
Maryland Resident Teacher Program
Adjunct Teacher
• Permission to Publish Granted 1.30.18 and 7.24.18
Factors for Consideration

Regulatory process for certification and educator preparation
• All regulatory actions, including adoption of key policies, must be considered by both the Maryland State Board of Education (SBOE) and the Professional Standards and Teacher Education Board (PSTEB)

Commission on Innovation and Excellence in Education
• Committee 2: High Quality Teachers and Leaders is considering issues pertaining to teacher certification and educator preparation program requirements

Legislation based on Commission recommendations may impact regulations adopted.
What the Research Says

**Education Performance:** Educational credentials such as college selectivity and prestige, grade-point average (GPA), content-specific coursework, and standardized tests, have been shown to, at best, weakly predict teacher performance and student growth and achievement, in aggregate.

**Cognitive Ability:** Some measures of cognitive ability, outside of standardized testing, have been shown to be predictive of student academic outcomes, in both mathematics and science, but not reading.

**Teaching Experience and Training:** The literature examining prior teaching experience and explicit pedagogical instruction, as predictors of teaching effectiveness is mixed, yet pedagogical instruction combined with content-specific knowledge, has been shown to be predictive of student outcomes.

**Personality & Individual Traits:** Measures of pre-service teachers’ individual traits (i.e., self-efficacy, grit, leadership experience, life satisfaction, values, etc.) are positively related to teacher effectiveness outcomes, with the exception of personality traits.
Maryland Approved Programs

Current Requirements:

• Possess a minimum of a bachelor’s degree (exception-Professional and Technical Education teachers)

• Complete a program at a Institution of Higher Education (IHE) approved by the State Superintendent of Schools under COMAR 13A.07.06

• Pass Maryland certification assessments
Maryland Approved Programs

Facts
• During the 17-18 SY, 2,028 candidates became certified using this pathway

Aligned to SBOE Subcommittee and/or Commission
• Yes: It offers a cohesive program aligned to the EPP competencies and standards to be established by the SBOE and PSTEB.

Considerations
• Maryland EPP’s do not produce the quantity of educators required in Maryland schools
• Maryland currently has two separate pathways for programs leading to educator certification: Maryland Approved Programs (MAPs) and the Maryland Approved Alternative Preparation Programs (MAAPPs) which are covered under Maryland Resident Teacher.
Maryland Resident Teacher

Requirements:

• Possess a minimum of a bachelor’s degree (exception-
  Professional and Technical Education teachers)

• Completion of an approved alternative program

• Satisfactory teaching performance during the period of the
  residency

• Pass Maryland certification assessments
  • Basic Skills and Content submitted prior to enrollment
  • Pedagogy submitted prior to certification
Maryland Resident Teacher

Facts
• In SY 17-18, **463** candidates became certified using this pathway.

Aligned to SBOE Subcommittee and/or Commission
• **No:** Allows an individual to be the teacher of record while completing a Maryland Approved Alternative Preparation Program (MAAPP) internship.

Considerations
• If all MAAPPs are required to meet the same requirements as a MAP, then this pathway could be included in the approved program pathway.
Out of State Approved Program

Current Requirements

Holds an out of state certificate
• Complete a program offered by an IHE leading to teacher certification in the state in which the institution is located, for which a comparable Maryland certificate is issued (subject, grade band)
• Present out of state professional certificate, for which a comparable Maryland certificate exists
• Present out of state tests (certificate must be valid at the time of application) OR 2 years of satisfactory experience (certificate may be expired)

Does not hold an out of state certificate
• Complete a program offered by an IHE leading to teacher certification in the state in which the institution is located, for which a comparable Maryland certificate is issued
• Present Maryland tests
Out of State Approved Program

Facts
• During the 17-18 SY, 1,460 candidates became certified using this pathway.
• Maryland does not offer 1:1 reciprocity.
• Three (3) states offer 1:1 reciprocity (Arizona, Delaware, and Nevada).

Aligned to SBOE Subcommittee and/or Commission
Partially:
• While the pathway offers a cohesive program, it is aligned to the EPP standards established by another state which may or may not be aligned to Maryland’s.
• Not aligned with the Commission recommendation requiring all out-state-teachers to pass the Educative Teacher Performance Assessment (EdTPA) or Praxis Performance Assessment for Teachers (PPAT) within 18-months.

Considerations
• Maryland is an import state, hiring 50-60% of its teachers from out of state.
• Potential negative impact on ability to recruit those with multiple years of effective experience who will have to pass the EdTPA or PPAT.
  • EdTPA and PPAT are performance-based assessments designed to determine whether new teachers are ready to enter the classroom.
Experienced Professional

Requirements:

• Possess a minimum of a bachelor’s degree (exception- Professional and Technical Education teachers)

• Present a valid professional out of state (or country) certificate in the area being sought, for which a comparable Maryland certificate exists

• Present verification of 27 months of satisfactory experience in the past 7 years in the certification area sought.
Experienced Professional

Facts

• During 17-18 SY, 463 candidates became certified using this pathway.
• Maryland does not offer 1:1 reciprocity.
• Three (3) states offer 1:1 reciprocity (Arizona, Delaware, and Nevada).

Aligned to SBOE Subcommittee and/or Commission

Partially: The way an individual was trained is not considered in this pathway and is not aligned with the Commission’s recommendation requiring all out-state teachers pass the EdTPA or PPAT within 18-months.

Considerations

• Maryland is an import state, hiring 50-60% of its teachers from out of state.
• Potential negative effect on LEA’s ability to recruit those individuals with multiple years of effective experience who will be required to pass the EdTPA or PPAT
• The experience timeframe limitations may be a barrier to individuals seeking Maryland certification because they were employed in another capacity during the 7 years prior to application (e.g., employed as an administrator during the last 5 years).
Transcript Analysis

Requirements:

• Possess a minimum of a bachelor’s degree (exception-Professional and Technical Education teachers)

• The applicant shall present verification of satisfactory completion of the requirements for the specific area outlined in COMAR 13A.12.02
  • Content Coursework
  • Professional Coursework
  • Practicum/Experience
  • Tests
Transcript Analysis

Facts
• During the 17-18 SY, 558 candidates became certified using this pathway.
• Eleven (11) states offer Transcript Analysis as a pathway to certification.
  • Arizona, California, Connecticut, Florida, Illinois, Iowa, Maryland, Missouri, Oklahoma, Rhode Island, and Vermont.

Aligned to SBOE Subcommittee and/or Commission
No: The individual is not provided with a cohesive program aligned to the EPP competencies and standards established by the SBOE and PSTEB. An internship is not required. Experience requirement can be met by completing one year as teacher of record.

Considerations
• Consider establishing additional/innovative, cohesive alternative preparation program options to take the place of transcript analysis.
National Board Certification

Requirements:
• Possess a minimum of a bachelor’s degree (exception- Professional and Technical Education teachers)
• Present a National Board Certificate (NBC) from the National Board for Professional Teaching Standards, for which a comparable Maryland certificate exists.

Facts:
• Pathway effective July 16, 2018, since then 3 candidates became certified using this pathway.

Aligned to SBOE Subcommittee and/or Commission
Yes: Committee 2 of the Commission has made recommendations regarding the use of NBC to progress through the career ladder.
Options for Obtaining Certification as a Specialist or Administrator

Specialists and Administrators:

• Must meet one (1) pathway PLUS

• Individual must meet the additional experience and education requirements outlined in Chapters 3 (specialists) and 4 (administrators)

• Each specialist and administrator area of certification has distinctive requirements (chapters 3 and 4), thus one cannot qualify simply by meeting the qualifications outlined in the Options of Obtaining Initial Maryland Certificates regulation (Chapter 1)
Educator Certification: Transforming Pathways to Certification Recommendations
## Transforming In-State and Out-of-State Pathways to Certification

<table>
<thead>
<tr>
<th>In-State</th>
<th>Out-of-State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maryland Approved Educator Preparation Programs (Traditional)</td>
<td>Out-of-State Approved Educator Preparation Program, Certificate and Tests</td>
</tr>
<tr>
<td>Maryland Alternative Approved Educator Preparation Programs (Non-Traditional)</td>
<td>Out-of-State Approved Educator Preparation Program and Maryland Tests</td>
</tr>
<tr>
<td>Performance Review Provider</td>
<td>Out-of-State Certificate and Experience</td>
</tr>
<tr>
<td>Experienced Nonpublic School Teacher</td>
<td>Out-of-State Certificate and Maryland Tests</td>
</tr>
<tr>
<td></td>
<td>National Board Certification</td>
</tr>
</tbody>
</table>
Benefits of Transforming Pathways to Certification

Recommendations

• Repeal current pathways and replace with a restructured model

• Define pathways to initial certification as a teacher under two (2) distinct pathways: In-State Candidates and Out-of-State Candidates

Potential Outcomes

• Streamlines pathways

• Increases the rigor of certification requirements, while keeping the educator pipeline open

• Decreases the complexity of the regulatory process
In-State Candidates

Recommendations

• Maryland approved educator preparation program
• Maryland alternative educator preparation program
  • Expand the alternative preparation programs
• Performance review option
• Experienced nonpublic school teacher
In-State

Maryland Approved Program

• Complete a Maryland approved traditional educator preparation program and test requirements

• Twenty-three (23) Maryland Institutions of Higher Education offering programs that lead to certification

• Current approval standards are outlined in the Institutional Performance Criteria (IPC)

• Approval of new standards and competencies to be discussed by the SBOE in February
In-State

Maryland Approved Alternative Preparation Program

• Complete a Maryland approved alternative educator preparation program and Maryland test requirements
• Thirteen (13) programs run by local school systems or in partnership with outside vendors or Maryland IHE’s
• Current approval standards are aligned to the traditional program approval standards (IPC)
• Approval of new standards and competencies to be discussed by the SBOE in February
Expand Alternative Preparation Programs

Encourage local school systems and Maryland Institutions of Higher Education, including community colleges, to develop additional/innovative, cohesive alternative preparation program options to take the place of transcript analysis.

Examples include:

• **New Jersey**: Approved Certificate of Eligibility Preparation Programs
  • Non-traditional teacher preparation program designed for those individuals who have not completed a formal teacher preparation program at an accredited college or university, but wish to obtain the necessary training to become a NJ certified teacher.

• **California**: District or University Intern Program
  • Approved intern programs are sponsored by colleges, universities, school districts or county offices of education. The intern program provides teacher preparation coursework and an organized system of support from college and district faculty.

• **Missouri**: American Board of Certification for Teacher Excellence
  • Alternative route for individuals who hold a certificate from the American Board for Certification of Teacher Excellence (ABCTE) to be eligible for a regular Missouri teaching certificate in specific areas.
  • ABCTE indicates Arizona, Arkansas, Florida, Idaho, Mississippi, Missouri, New Hampshire, Oklahoma, Pennsylvania, South Carolina, Tennessee, Utah, and Wisconsin also have programs.
In-State

Performance Review Option

• Consider adopting a process such as the Massachusetts Performance Review Program for Initial Licensure (PRPIL)

• Conducted by a department approved provider that determines if the individual exhibits the competence in the state standards using portfolio and classroom observation, using state evaluation tools

• Must possess a provisional license in the field/level, have 3 years of experience, attend identified seminars and courses, complete a mentoring program, and have a recommendation from a supervisor
In-State

Experienced Nonpublic School Teacher

• Submit verification of 5 years of effective teaching experience in the area being sought from a Maryland approved or accredited nonpublic school

• Present a bachelor’s or higher degree

• Present Maryland tests in area being sought
In-State Candidate Pathway Decisions

Decision 1: Accept traditional approved educator preparation program pathway

Decision 2: Accept alternative approved educator preparation program pathway

Decision 3: Accept performance review program pathway

Decision 4: Accept nonpublic experience pathway
Educator Certification: Out-of-State Candidates
Out-of-State Candidates

Recommended pathways

• Approved out-of-state educator preparation program, certificate, and tests
• Approved out-of-state educator preparation program and Maryland tests
• Out-of-state certificate and experience
• Out-of-state certificate and Maryland tests
• National Board Certification

Benefit

• Opens the teacher pipeline increasing number of pathways
Out-of-State

**Educator Preparation Program with Certificate**

- Complete an out-of-state approved educator preparation program in the area being sought

- Present a valid, professional certificate in the area being sought

- Present out-of-state tests taken to earn out-of-state certificate
Out-of-State

**Educator Preparation Program without Certificate**

- Complete an out-of-state approved educator preparation program in the area being sought

- Present Maryland tests the area being sought
Out-of-State Certificate with Experience

• Present a valid, professional out-of-state certificate, in the area being sought

• Present 3 years of effective teaching experience, verified by employer, in the certification area being sought
Out-of-State

Certificate with No Experience

• Present a valid, professional out-of-state certificate, in the area being sought

• Present Maryland tests in the area being sought
Out-of-State

National Board Certification

• Possess a minimum of a bachelor’s degree (exception-Professional and Technical Education teachers)

• Present a National Board Certificate (NBC) from the National Board for Professional Teaching Standards, for which a comparable Maryland certificate exists
Out-of-State Candidate Pathway Decisions

**Decision 1:** Accept the approved out-of-state educator preparation program, certificate, and tests pathway

**Decision 2:** Accept the approved out-of-state educator preparation program and Maryland tests

**Decision 3:** Accept out-of-state certificate and experience

**Decision 4:** Accept out-of-state certificate and Maryland tests

**Decision 5:** Accept National Board Certification
<table>
<thead>
<tr>
<th>STATE</th>
<th>Route to Certification</th>
<th>Websites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware</td>
<td>Approved Educator Preparation Program or Advanced Certificate</td>
<td><a href="https://www.doe.k12.de.us/site/Default.aspx">https://www.doe.k12.de.us/site/Default.aspx</a></td>
</tr>
<tr>
<td></td>
<td>Obtain National Board for PTS certification in the area, subject, or category for which a Standard Certificate is requested</td>
<td><a href="http://regulations.delaware.gov/AdminCode/title14/1500/1505.shtml#TopOfPage">http://regulations.delaware.gov/AdminCode/title14/1500/1505.shtml#TopOfPage</a></td>
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<tr>
<td></td>
<td>Graduate from a NCATE specialty organization recognized educator preparation program or from a state approved educator preparation program, offered by a regionally accredited college or university with a major or its equivalent in the area of the Standard Certificate requested. (For both programs, the state approval body shall employ the appropriate NASDTEC or NCATE specialty organization standards)</td>
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<td></td>
<td>Satisfactorily completing an Alternative Routes for Licensure and Certification Program, the Special Institute for Licensure and Certification, or such other educator preparation programs as the Delaware Department of Education Secretary or the Professional Standards Board with the consent of the State Board of Education, may approve</td>
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<td></td>
<td>Met requirements for Meritorious New Teacher Candidate Designation (exceptional new teachers with regional recognition and career-long reciprocity across four Mid-Atlantic States and the District of Columbia)</td>
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<tr>
<td></td>
<td>Met requirements for licensure and holding a valid and current license or certificate from another state in the area for which a Standard Certificate is requested. (The regulation does not use the word reciprocity)</td>
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<tr>
<td></td>
<td>Post-baccalaureate teacher preparation pathway (program which leads to certification as a teacher)</td>
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<tr>
<td>Massachusetts</td>
<td>Approved Educator Preparation Programs</td>
<td><a href="http://www.doe.mass.edu/licensure/become-educator.html">http://www.doe.mass.edu/licensure/become-educator.html</a></td>
</tr>
<tr>
<td></td>
<td>Performance Review Program for Initial Licensure (PRPIL) (this is an option for teachers who have experience and some coursework, but have not completed an approved initial licensure program. They have contracted with Class Measures to operate PRPIL for eligible candidates in teaching fields (alternative method to certification)</td>
<td><a href="https://www.classmeasures.com/">Class Measures: https://www.classmeasures.com/</a></td>
</tr>
</tbody>
</table>
## Routes to Certification Chart

<table>
<thead>
<tr>
<th>STATE</th>
<th>Route to Certification</th>
<th>Websites</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Alternative 2 - Out of State Approved educator preparation programs out side of NH or who has at least 3 years of fulltime regular teaching experience in the past 7 years under a valid credential from a jurisdiction other than NH</td>
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<tr>
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<td>Alternative 3A - is a rigorous portfolio and oral examination process for candidates who have gained the necessary competencies, skills and knowledge required for certification in a specific subject area and/or educator role (e.g., teacher, administrator, or specialist) through a means other than the completion of an approved educator preparation program.</td>
<td><a href="https://www.education.nh.gov/certification/documents/alt3memo.pdf">https://www.education.nh.gov/certification/documents/alt3memo.pdf</a></td>
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<tr>
<td></td>
<td>Alternative 3B - Hold National/Regional Certification (NBPTS)</td>
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<td></td>
<td>Alternative 3C - (complete transcript review for coursework or approved program) Administrative Certification include the following areas: Superintendent, Principal, Career and Technical Education Director, Special Education Administrator, Curriculum Administrator, and Business</td>
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<td>Alternative 4 and 5 - Site Based Certification for Critical Shortage Endorsements, Special Education Endorsements and Career and Technical (CTE) Endorsements (Intern/Provisional License equivalent to our Conditional to allow candidates the opportunity to earn certification while teaching).</td>
<td><a href="https://www.education.nh.gov/certification/documents/alt4-5instructions.pdf">https://www.education.nh.gov/certification/documents/alt4-5instructions.pdf</a></td>
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<td>New Jersey</td>
<td>Educator preparation program (traditional route)</td>
<td><a href="https://nj.gov/education/license/overview/">https://nj.gov/education/license/overview/</a></td>
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<td></td>
<td>Out of State teacher educator preparation programs (reciprocity)</td>
<td><a href="https://nj.gov/education/license/out/reciprocity.htm">https://nj.gov/education/license/out/reciprocity.htm</a></td>
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<td>Provisional Teacher Process (non traditional teacher preparation program for those who HAVE NOT completed a teacher preparation program)</td>
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<td>State</td>
<td>Transcript Analysis Route</td>
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<td>Alabama</td>
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<td><a href="https://www.alsde.edu/ofc/otl/Admin%20Code/290-3-2%20Education%20Certification%20Chapter%20Effective%204-24-16.pdf">https://www.alsde.edu/ofc/otl/Admin%20Code/290-3-2%20Education%20Certification%20Chapter%20Effective%204-24-16.pdf</a></td>
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<td>Alaska</td>
<td>No</td>
<td><a href="https://education.alaska.gov/teacher-certification/certification">https://education.alaska.gov/teacher-certification/certification</a></td>
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<td>Arizona</td>
<td>Yes</td>
<td><a href="https://cms.azed.gov/home/GetDocumentFile?id=57a5f538aadebe02a4f4f3c2">https://cms.azed.gov/home/GetDocumentFile?id=57a5f538aadebe02a4f4f3c2</a></td>
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<tr>
<td>Arkansas</td>
<td>No</td>
<td><a href="http://www.arkansased.gov/divisions/educator%20licensure">http://www.arkansased.gov/divisions/educator%20licensure</a></td>
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<tr>
<td>California</td>
<td>Yes</td>
<td><a href="https://www.ctc.ca.gov/credentials/req-teaching">https://www.ctc.ca.gov/credentials/req-teaching</a></td>
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<td>Colorado</td>
<td>No</td>
<td><a href="https://www.cde.state.co.us/cdeprof">https://www.cde.state.co.us/cdeprof</a></td>
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<td>Delaware</td>
<td>No</td>
<td><a href="http://regulations.delaware.gov/AdminCode/title14/1500/1521.shtml#TopOfPage">http://regulations.delaware.gov/AdminCode/title14/1500/1521.shtml#TopOfPage</a></td>
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<td>District of Columbia</td>
<td>No</td>
<td><a href="https://osse.dc.gov/page/teacher-certification#option2initial">https://osse.dc.gov/page/teacher-certification#option2initial</a></td>
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<td>Florida</td>
<td>Yes</td>
<td><a href="http://www.fldoe.org/teaching/certification/admin">http://www.fldoe.org/teaching/certification/admin</a></td>
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<td>Georgia</td>
<td>No</td>
<td><a href="https://www.gapsc.com/ProspectiveEducator/routesToInitialCertification.aspx">https://www.gapsc.com/ProspectiveEducator/routesToInitialCertification.aspx</a></td>
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<td>Hawaii</td>
<td>No</td>
<td><a href="http://www.hawaiipublicschools.org/ConnectWithUs/Employment/LicensureAndCertification/Pages/home.aspx">http://www.hawaiipublicschools.org/ConnectWithUs/Employment/LicensureAndCertification/Pages/home.aspx</a></td>
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<td>Idaho</td>
<td>No</td>
<td><a href="http://www.sde.idaho.gov/cert-psc/cert/">http://www.sde.idaho.gov/cert-psc/cert/</a></td>
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<tr>
<td>Illinois</td>
<td>Yes</td>
<td><a href="https://www.isbe.net/Pages/Professional-Educator-License.aspx">https://www.isbe.net/Pages/Professional-Educator-License.aspx</a></td>
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<td>Indiana</td>
<td>No</td>
<td><a href="https://www.doe.in.gov/licensing/teacher#OutState">https://www.doe.in.gov/licensing/teacher#OutState</a></td>
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<td>Iowa</td>
<td>Yes</td>
<td><a href="http://www.boee.iowa.gov/require.html">http://www.boee.iowa.gov/require.html</a></td>
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<td>Louisiana</td>
<td>No</td>
<td><a href="https://www.teachlouisiana.net/teachers.aspx">https://www.teachlouisiana.net/teachers.aspx</a></td>
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<td>Maine</td>
<td>No</td>
<td><a href="http://www.maine.gov/doi/cert/initial/requirements.html">http://www.maine.gov/doi/cert/initial/requirements.html</a></td>
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## Transcript Analysis Chart

<table>
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<tr>
<th>State</th>
<th>Transcript Analysis Route</th>
<th>Links</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td>Maryland</td>
<td>Yes</td>
<td><a href="http://www.doe.mass.edu/licensure/academic-prek12/teacher/license-types.html#initial-license">http://www.doe.mass.edu/licensure/academic-prek12/teacher/license-types.html#initial-license</a></td>
<td>Transcript analysis is not in regulation but a Competency Review in limited fields</td>
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<td>Massachusetts</td>
<td>No</td>
<td><a href="https://www.michigan.gov/mde/0,4615,7-140-5683_14795_83462---_00.html">https://www.michigan.gov/mde/0,4615,7-140-5683_14795_83462---_00.html</a></td>
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<td>Michigan</td>
<td>No</td>
<td><a href="https://www.mn.gov/pelsb/aspiring-educators/requirements/">https://www.mn.gov/pelsb/aspiring-educators/requirements/</a></td>
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<td>Minnesota</td>
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<td>Missouri</td>
<td>Yes</td>
<td><a href="https://dese.mo.gov/educator-quality/certification">https://dese.mo.gov/educator-quality/certification</a></td>
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<td>Montana</td>
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<td><a href="http://opi.mt.gov/Educators/Licensure/Become-a-Licensed-Montana-Educator">http://opi.mt.gov/Educators/Licensure/Become-a-Licensed-Montana-Educator</a></td>
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<td>Nebraska</td>
<td>No</td>
<td><a href="https://dc2.education.ne.gov/tc_interactive_teaching2/welcome.aspx">https://dc2.education.ne.gov/tc_interactive_teaching2/welcome.aspx</a></td>
<td></td>
</tr>
<tr>
<td>Nevada</td>
<td>No</td>
<td><a href="http://www.doe.nv.gov/Educator_Licensure/">http://www.doe.nv.gov/Educator_Licensure/</a></td>
<td></td>
</tr>
<tr>
<td>New Hampshire</td>
<td>No</td>
<td><a href="https://www.education.nh.gov/certification/">https://www.education.nh.gov/certification/</a></td>
<td>Cannot tell if Alternative #4 option is a hybrid of transcript analysis with 'Individualized Professional Development Plan leading to full certification'</td>
</tr>
<tr>
<td>New Jersey</td>
<td>No</td>
<td><a href="https://nj.gov/education/license/req/">https://nj.gov/education/license/req/</a></td>
<td>Advertises coursework to satisfy unmet requirements but no stand-alone route</td>
</tr>
<tr>
<td>New Mexico</td>
<td>No</td>
<td><a href="https://webnew.ped.state.nm.us/bureaus/licensure/how-to-apply/elementary/">https://webnew.ped.state.nm.us/bureaus/licensure/how-to-apply/elementary/</a></td>
<td></td>
</tr>
<tr>
<td>New York</td>
<td>No</td>
<td><a href="http://www.highered.nysed.gov/tcert/">http://www.highered.nysed.gov/tcert/</a></td>
<td></td>
</tr>
<tr>
<td>North Carolina</td>
<td>No</td>
<td><a href="http://www.dpi.state.nc.us/licensure/beginning/">http://www.dpi.state.nc.us/licensure/beginning/</a></td>
<td></td>
</tr>
<tr>
<td>North Dakota</td>
<td>No</td>
<td><a href="http://codes.ohio.gov/oac/3301-24-14v1">http://codes.ohio.gov/oac/3301-24-14v1</a>; <a href="http://education.ohio.gov/Topics/Teaching/Licensure/Additional-Information/Teacher-Education-and-Licensure-Standards">http://education.ohio.gov/Topics/Teaching/Licensure/Additional-Information/Teacher-Education-and-Licensure-Standards</a></td>
<td>ODOE stated yes for transcript analysis but appears to be only for a temporary license</td>
</tr>
<tr>
<td>Ohio</td>
<td>No</td>
<td><a href="http://sde.ok.gov/oklahoma-alternative-placement-program-teacher-certification">http://sde.ok.gov/oklahoma-alternative-placement-program-teacher-certification</a></td>
<td>OK has an alternative placement program; must demonstrate competency in a teaching field</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>Yes</td>
<td></td>
<td>Transcript analysis is called Credential Review</td>
</tr>
<tr>
<td>Oregon</td>
<td>No</td>
<td><a href="https://www.oregon.gov/tspc/Pages/Out_of_State.aspx">https://www.oregon.gov/tspc/Pages/Out_of_State.aspx</a></td>
<td></td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>No</td>
<td><a href="https://www.education.pa.gov/Educators/Certification/Pages/default.aspx">https://www.education.pa.gov/Educators/Certification/Pages/default.aspx</a></td>
<td></td>
</tr>
<tr>
<td>Rhode Island</td>
<td>Yes</td>
<td><a href="http://www.ride.ri.gov/TeachersAdministrators/EducatorCertification/tabid/632/LiveTabId/22652/Default.aspx">http://www.ride.ri.gov/TeachersAdministrators/EducatorCertification/tabid/632/LiveTabId/22652/Default.aspx</a></td>
<td>Transcript analysis is called Credential Review</td>
</tr>
<tr>
<td>State</td>
<td>Transcript Analysis Route</td>
<td>Links</td>
<td>Comments</td>
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</tr>
<tr>
<td>Tennessee</td>
<td>No</td>
<td><a href="https://www.tn.gov/education/licensing.html">https://www.tn.gov/education/licensing.html</a></td>
<td></td>
</tr>
<tr>
<td>Texas</td>
<td>No</td>
<td><a href="https://tea.texas.gov/interiorpage.aspx?id=25769812519">https://tea.texas.gov/interiorpage.aspx?id=25769812519</a></td>
<td></td>
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<tr>
<td>Utah</td>
<td>No</td>
<td><a href="https://www.schools.utah.gov/curr/licensing">https://www.schools.utah.gov/curr/licensing</a></td>
<td></td>
</tr>
<tr>
<td>Vermont</td>
<td>Yes</td>
<td><a href="http://education.vermont.gov/educator-quality/licensed-vermont-educators/transcript-review">http://education.vermont.gov/educator-quality/licensed-vermont-educators/transcript-review</a></td>
<td></td>
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<tr>
<td>Virginia</td>
<td>No</td>
<td><a href="http://www.doe.virginia.gov/teaching/licensure/">http://www.doe.virginia.gov/teaching/licensure/</a></td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td>No</td>
<td><a href="http://www.k12.wa.us/certification/Teacher/Initial-ContinuingR.aspx">http://www.k12.wa.us/certification/Teacher/Initial-ContinuingR.aspx</a></td>
<td></td>
</tr>
<tr>
<td>West Virginia</td>
<td>No</td>
<td><a href="https://wvde.state.wv.us/certification/">https://wvde.state.wv.us/certification/</a></td>
<td></td>
</tr>
<tr>
<td>Wisconsin</td>
<td>No</td>
<td><a href="https://dpi.wi.gov/tepdl/pathways">https://dpi.wi.gov/tepdl/pathways</a></td>
<td></td>
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<tr>
<td>Wyoming</td>
<td>No</td>
<td><a href="http://wyomingptsb.com/licensure/becoming-licensed/">http://wyomingptsb.com/licensure/becoming-licensed/</a></td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>Reciprocity</td>
<td>Add'l Requirements</td>
<td>State Website</td>
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</tr>
<tr>
<td>Alabama</td>
<td>No</td>
<td>1) Tests from prior state 2) Experience not to exceed ten years old (only for instructional support areas e.g. school counseling, library, Admin, etc.)</td>
<td><a href="https://www.alsde.edu/sec/ec/Pages/outofstatecertificates-all.aspx">https://www.alsde.edu/sec/ec/Pages/outofstatecertificates-all.aspx</a></td>
</tr>
<tr>
<td>Alaska</td>
<td>No</td>
<td>1) Basic skills exam 2) Ancillary credits specific to AL culture</td>
<td><a href="https://education.alaska.gov/teacher-certification">https://education.alaska.gov/teacher-certification</a></td>
</tr>
<tr>
<td>Arizona</td>
<td>Yes</td>
<td>N/A</td>
<td><a href="https://www.azed.gov/educator-certification/forms-and-information/reciprocity/">https://www.azed.gov/educator-certification/forms-and-information/reciprocity/</a></td>
</tr>
<tr>
<td>Arkansas</td>
<td>No</td>
<td>1) Tests from prior state 2) At least 3 years teaching experience</td>
<td><a href="http://www.arkansased.gov/divisions/educator-effectiveness/educator-licensure">http://www.arkansased.gov/divisions/educator-effectiveness/educator-licensure</a></td>
</tr>
<tr>
<td>California</td>
<td>No</td>
<td>1) Basic skills 2) Ancillary credits specific to ELL and human relations 3) Two years satisfactory experience</td>
<td><a href="https://www.ctc.ca.gov/credentials/out-of-state-app">https://www.ctc.ca.gov/credentials/out-of-state-app</a></td>
</tr>
<tr>
<td>Colorado</td>
<td>No</td>
<td>1) Tests 2) At least 3 years teaching experience from last seven OR 3) Verification of approved program completion</td>
<td><a href="https://www.cde.state.co.us/cdeprof/content_tests">https://www.cde.state.co.us/cdeprof/content_tests</a></td>
</tr>
<tr>
<td>Connecticut</td>
<td>No</td>
<td>1) Tests 2) 30 months Experience not to exceed ten years old OR 3) M.A. in cert subject area</td>
<td><a href="https://portal.ct.gov/SDE/Certification/Bureau-of-Certification">https://portal.ct.gov/SDE/Certification/Bureau-of-Certification</a></td>
</tr>
<tr>
<td>Delaware</td>
<td>Yes</td>
<td>N/A</td>
<td><a href="https://deeds.doe.k12.de.us/registration/deeds_reg_outofstate.aspx">https://deeds.doe.k12.de.us/registration/deeds_reg_outofstate.aspx</a></td>
</tr>
<tr>
<td>Florida</td>
<td>No</td>
<td>1) Must verify the same or higher level of training required for certification in that subject in Florida</td>
<td><a href="http://www.fldoe.org/teaching/certification/pathways-routes/certified-teacher-or-administrator.stml">http://www.fldoe.org/teaching/certification/pathways-routes/certified-teacher-or-administrator.stml</a></td>
</tr>
<tr>
<td>State</td>
<td>Reciprocity</td>
<td>Addt'l Requirements</td>
<td>State Website</td>
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</tr>
<tr>
<td>Georgia</td>
<td>No</td>
<td>1) Tests 2) At least 3 years teaching experience 3) B.A.</td>
<td><a href="https://www.gapsc.com/ProspectiveEducator/ProspectiveEducator.aspx">https://www.gapsc.com/ProspectiveEducator/ProspectiveEducator.aspx</a></td>
</tr>
<tr>
<td>Hawaii</td>
<td>No</td>
<td>1) Tests 2) At least 3 years teaching experience in last five years</td>
<td><a href="http://www.hawaiipublicschools.org/ConnectWithUs/Employment/LicensureAndCertification/Pages/home.aspx">http://www.hawaiipublicschools.org/ConnectWithUs/Employment/LicensureAndCertification/Pages/home.aspx</a></td>
</tr>
<tr>
<td>Illinois</td>
<td>No</td>
<td>1) 32 hrs or major in content coursework 2) Basic skills 3) Content 4) EdTPA or 1 yr. FT teaching experience 5) Coursework in ELL 6) Coursework in SPED 7) Coursework in methods of reading and reading in the content area</td>
<td><a href="https://www.isbe.net/Documents/oos-req-IL-credentials.pdf">https://www.isbe.net/Documents/oos-req-IL-credentials.pdf</a></td>
</tr>
<tr>
<td>Indiana</td>
<td>No</td>
<td>1) Content Test 2) Program or coursework</td>
<td><a href="https://www.doe.in.gov/licensing/teacher#OutState">https://www.doe.in.gov/licensing/teacher#OutState</a></td>
</tr>
<tr>
<td>Iowa</td>
<td>No</td>
<td>1) Tests 2) Coursework 3) At least 3 years teaching experience</td>
<td><a href="http://www.boee.iowa.gov/require.html">http://www.boee.iowa.gov/require.html</a></td>
</tr>
<tr>
<td>Kansas</td>
<td>No</td>
<td>1) Tests 2) EPP 3) 1 yr experience or 8 semester hours from last six years</td>
<td><a href="https://www.ksde.org/Agency/Division-of-Learning-Services/Teacher-Licensure-and-Accreditation/Licensure/License-Application/Form-2-Out-Of-State">https://www.ksde.org/Agency/Division-of-Learning-Services/Teacher-Licensure-and-Accreditation/Licensure/License-Application/Form-2-Out-Of-State</a></td>
</tr>
<tr>
<td>Kentucky</td>
<td>No</td>
<td>1) Tests 2) GPA requirement 3) 2 yrs experience in subject &amp; grade area</td>
<td><a href="http://www.epsb.ky.gov/mod/page/view.php?id=30">http://www.epsb.ky.gov/mod/page/view.php?id=30</a></td>
</tr>
<tr>
<td>Louisiana</td>
<td>No</td>
<td>1) Tests 2) Three years experience 3)Superintendent recommendation</td>
<td><a href="https://www.teachlouisiana.net/pdf/applications/Out_of_State.pdf">https://www.teachlouisiana.net/pdf/applications/Out_of_State.pdf</a></td>
</tr>
<tr>
<td>State</td>
<td>Reciprocity</td>
<td>Addt'l Requirements</td>
<td>State Website</td>
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</tr>
<tr>
<td>Maine</td>
<td>No</td>
<td>1) Content test 2) Coursework</td>
<td><a href="https://www.maine.gov/doe/cert">https://www.maine.gov/doe/cert</a></td>
</tr>
<tr>
<td>Massachusetts</td>
<td>No</td>
<td>1) Tests 2) At least 3 years teaching experience within last seven 3) EPP 4) Sheltered English Immersion Endorsement</td>
<td><a href="http://www.doe.mass.edu/licensure/out-state-applicants.html">http://www.doe.mass.edu/licensure/out-state-applicants.html</a></td>
</tr>
<tr>
<td>Michigan</td>
<td>No</td>
<td>1) Tests 2) EPP 3) CPR &amp; First Aid 4) Planned Program coursework 5) Reading methods</td>
<td><a href="https://www.michigan.gov/documents/education/out_of_state_applicants_534635_7.pdf">https://www.michigan.gov/documents/education/out_of_state_applicants_534635_7.pdf</a></td>
</tr>
<tr>
<td>Minnesota</td>
<td>No</td>
<td>1) Tests in content and pedagogy 2) EPP 3) Two years teaching experience</td>
<td><a href="https://mn.gov/pelsb/aspiring-educators/requirements/">https://mn.gov/pelsb/aspiring-educators/requirements/</a></td>
</tr>
<tr>
<td>Mississippi</td>
<td>No/Yes</td>
<td>1) Tests from prior state</td>
<td><a href="https://www.mdek12.org/OTL/OEL/Reciprocity">https://www.mdek12.org/OTL/OEL/Reciprocity</a></td>
</tr>
<tr>
<td>Missouri</td>
<td>No</td>
<td>1) Teaching experience</td>
<td><a href="https://dese.mo.gov/educator-quality/certification/out-state-information">https://dese.mo.gov/educator-quality/certification/out-state-information</a></td>
</tr>
<tr>
<td>Montana</td>
<td>No</td>
<td>Must meet all requirements for certification</td>
<td><a href="http://opi.mt.gov/Licensure-Question-3">http://opi.mt.gov/Licensure-Question-3</a></td>
</tr>
<tr>
<td>Nevada</td>
<td>Yes</td>
<td>N/A</td>
<td><a href="http://www.doe.nv.gov/Educator_Licensure/Reciprocity/">http://www.doe.nv.gov/Educator_Licensure/Reciprocity/</a></td>
</tr>
<tr>
<td>New Jersey</td>
<td>No</td>
<td>1) Two effective years teaching within 3 consecutive years, within the last 4 years</td>
<td><a href="https://nj.gov/education/license/out/reciprocity.htm">https://nj.gov/education/license/out/reciprocity.htm</a></td>
</tr>
<tr>
<td>New Mexico</td>
<td>No</td>
<td>1) Tests 2) Teaching experience</td>
<td><a href="https://webnew.ped.state.nm.us/bureaus/licensure/how-to-apply/">https://webnew.ped.state.nm.us/bureaus/licensure/how-to-apply/</a></td>
</tr>
<tr>
<td>State</td>
<td>Reciprocity</td>
<td>Addt'l Requirements</td>
<td>State Website</td>
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<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>North Dakota</td>
<td>No</td>
<td>1) Tests</td>
<td>[<a href="https://www.nd.gov/espblicensure/">https://www.nd.gov/espblicensure/</a> licensel-information/types-licenses](<a href="https://www.nd.gov/espblicensure/">https://www.nd.gov/espblicensure/</a> licensel-information/types-licenses)</td>
</tr>
<tr>
<td>Ohio</td>
<td>No</td>
<td>1) Tests 2) At least three years teaching Experience</td>
<td><a href="http://education.ohio.gov/Topics/Teaching/Licensure/Out-of-State-Licensure">http://education.ohio.gov/Topics/Teaching/Licensure/Out-of-State-Licensure</a></td>
</tr>
<tr>
<td>Oklahoma</td>
<td>No</td>
<td>1) Tests 2) One year successful employment in OK</td>
<td><a href="https://sde.ok.gov/traditional-path-oklahoma-teacher-certification#otherstate">https://sde.ok.gov/traditional-path-oklahoma-teacher-certification#otherstate</a></td>
</tr>
<tr>
<td>Oregon</td>
<td>No</td>
<td>1) Teaching experience 2) EPP</td>
<td><a href="https://www.oregon.gov/tspc/Pages/Out_of_State.aspx">https://www.oregon.gov/tspc/Pages/Out_of_State.aspx</a></td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>No</td>
<td>1) Tests 2) Two years teaching experience</td>
<td><a href="https://www.education.pa.gov/Educators/Certification/OutOfState/Pages/default.aspx">https://www.education.pa.gov/Educators/Certification/OutOfState/Pages/default.aspx</a></td>
</tr>
<tr>
<td>Rhode Island</td>
<td>No</td>
<td>1) Tests 2) EPP</td>
<td><a href="http://www.ride.ri.gov/TeachersAdministrators/EducatorCertification/GettingCertified.aspx#23212-reciprocity">http://www.ride.ri.gov/TeachersAdministrators/EducatorCertification/GettingCertified.aspx#23212-reciprocity</a></td>
</tr>
<tr>
<td>South Dakota</td>
<td>No</td>
<td>1) EPP 2) Ancillary credits: Suicide prevention and awareness &amp; Indian studies course 3) Three years experience within last five</td>
<td><a href="https://doe.sd.gov/certification/#reciprocity">https://doe.sd.gov/certification/#reciprocity</a></td>
</tr>
<tr>
<td>State</td>
<td>Reciprocity</td>
<td>Addt'l Requirements</td>
<td>State Website</td>
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<tr>
<td>Utah</td>
<td>No</td>
<td>1) Tests 2) Four years Experience</td>
<td><a href="https://www.schools.utah.gov/curr/licensing/earning">https://www.schools.utah.gov/curr/licensing/earning</a></td>
</tr>
<tr>
<td>Vermont</td>
<td>No</td>
<td>NY, NM, SD &amp; WI excluded from interstate agreement</td>
<td><a href="https://education.vermont.gov/educator-quality/become-a-vermont-educator/reciprocity">https://education.vermont.gov/educator-quality/become-a-vermont-educator/reciprocity</a></td>
</tr>
<tr>
<td>Virginia</td>
<td>No</td>
<td>1) EPP 2) Three years teaching experience</td>
<td><a href="http://www.doe.virginia.gov/teaching/licensure/#reciprocity">http://www.doe.virginia.gov/teaching/licensure/#reciprocity</a></td>
</tr>
<tr>
<td>Washington</td>
<td>No</td>
<td>1) Tests 2) EPP 3) At least three years experience</td>
<td><a href="http://www.k12.wa.us/certification/FAQ.aspx">http://www.k12.wa.us/certification/FAQ.aspx</a></td>
</tr>
<tr>
<td>West Virginia</td>
<td>No</td>
<td>1) EPP</td>
<td><a href="https://wvde.state.wv.us/certification/forms/reciprocity.html">https://wvde.state.wv.us/certification/forms/reciprocity.html</a></td>
</tr>
<tr>
<td>Wisconsin</td>
<td>No</td>
<td>1) Tests 2) One year experience 3) EdTPA</td>
<td><a href="https://dpi.wi.gov/tepdl/pathways/reciprocity">https://dpi.wi.gov/tepdl/pathways/reciprocity</a></td>
</tr>
<tr>
<td>Wyoming</td>
<td>No</td>
<td>1) Tests, 2) EPP 3) Three years experience from the last six years</td>
<td><a href="http://wyomingptsb.com/licensure/out-of-state-applicants/">http://wyomingptsb.com/licensure/out-of-state-applicants/</a></td>
</tr>
</tbody>
</table>
**PURPOSE:** Compile the current research on indicators that predict teacher effectiveness and make recommendations on which indicators should be considered for inclusion in MSDE guidance.

**FINDINGS:**
The literature on various indicators that predict teacher efficacy is decidedly mixed, however there are some measures that individually, and in certain combinations and within holistic frameworks, that can be used to support hiring more effective teachers. **Most notably, some measures of cognitive ability, local teacher screening systems, and some individual traits are strongly predictive of more effective teachers. Certain teaching-based assessments and licensure tests were also shown to be predictive of future performance, but these were also related to perpetuating disproportionate hiring practices.**

**Overview**
Research has shown that high quality teachers can place students on the trajectory for many positive academic and non-academic outcomes (Chetty, Friedman, & Rockoff, 2011). Consequently, selecting and hiring high quality teachers more efficiently and sooner can be cost-effective, lead to better outcomes statewide, and further MSDE’s mission towards equity and excellence (Strunk, Marsh, & Bruno, 2017). The research literature concerning predictors of teacher effectiveness come from a variety of disciplines and backgrounds including education, economics, psychology, and others. Despite examining the issue from multiple perspectives and operationalizing effectiveness in a variety of measures, one can conclude that no one measure is more accurate in predicting teacher performance above all others (Jacob, Rockoff, Taylor, Lindy, & Rosen, 2016; Bruno & Strunk, 2018). Fortunately, the literature does highlight promising indicators of effectiveness, but these usually must be used and implemented in holistic screening procedures and viewed in specific teaching contexts as studies reporting positive and mixed findings also describe unique circumstances and settings where indicators are predictive of student achievement and growth (Bruno & Strunk, 2018; Strunk et al., 2017). Underscoring this point, the literature points to the use of multiple indicators within indices or composite measures, that when viewed separately resulted in mixed findings and varying degrees of prediction. Two primary composite factors of individual indicators within one study (i.e., cognitive and non-cognitive skills), both had a moderate to strong significant relationship with student and teacher outcomes, versus the mixed findings for the individual results (Rockoff, Jacob, Kane, & Staiger, 2008). This finding and literature examining teacher screening procedures and tools highlight the process of measuring multiple indicators as the most promising avenue to pursue.

**Methodology and Assumptions**
This memo attempts to summarize recent teacher effectiveness research studies and compiles a list of indicators listed as potentially predicting beneficial outcomes for students and schools. Indicators have been grouped thematically and major findings and takeaways are listed as bullet points below each indicator. Most predictors can be listed under five themes, each having multiple approaches to measurement. While the rigor and breadth of the literature base has...
increased over the past decades, studies and papers reviewed lacked consistent approaches to indicator and outcome measurement. Terms that are used consistently throughout all examined studies are measured and operationalized differently, for example some measures of cognitive ability lack precision and composite measures of cognitive and non-cognitive ability are predictive than lone measures (Dobbie, 2011; Goldhaber, 2007; Rockoff et al., 2008). Predictive power of indicators also varied by breadth of teacher characteristic (for example, general vs. specific subject abilities) and effectiveness outcomes (student gain scores vs. value-added models [VAMs]) (Bruno & Strunk, 2018).

**Indicator Themes**

1. **Education Performance**

   *Educational credentials such as college selectivity and prestige, grade-point average (GPA), content-specific coursework, and standardized tests, have been shown to, at best, weakly predict teacher performance and student growth and achievement, in aggregate. Some syntheses and reviews are even more declarative and suggest that neither pre-service (undergraduate) training, nor the scholastic aptitude of teachers influences their ability to increase student achievement.*

   - **College Selectivity/Prestige**
     - Positive relationship with student achievement (Rice, 2003).
     - Positive relationship with teacher performance (Jacob et al., 2016).
     - Little or no relationship of general measures of the quality of the undergraduate institution attended with teacher productivity in elementary or middle school (Clotfelter, Ladd, & Vigdor, 2006; 2007a; Kane, Rockoff, & Staiger, 2008).
     - Positive relationship with productivity of high school teachers (Clotfelter, Ladd, & Vigdor, 2007b).
     - Mixed relationships of college ratings and rankings with student achievement gains (Wayne & Youngs, 2003).

   - **Undergraduate GPA**
     - Positive relationship with teacher performance (Jacob et al., 2016).
     - No relationship with teacher retention or teacher effectiveness (Robertson-Kraft & Duckworth, 2014).
     - No relationship with subsequent teacher performance (Kane et al., 2008).

   - **Content-specific Coursework/Degrees**
     - No relationship between undergraduate major and the impact of teachers on student achievement (Aaronson, Barrow, & Sander, 2007; Betts, Zau & Rice, 2003).
     - Positive relationship between possession of a master’s degree and elementary math achievement (Betts et al., 2003; Dee, 2004; Nye et al., 2004).
     - Insignificant or in some cases even negative relationships between possession of graduate degrees by a teacher and their students’ achievement in either math or reading (Dee, 2004; Harris & Sass, 2006; Nye et al., 2004).
Teacher Effectiveness Predictors Literature Review
(October 2018)

Internal use only. Do not circulate.

- Except for ELA education majors who teach middle school reading, no relationship between education majors and teacher productivity (Harris & Sass, 2006).
- Mixed relationships between certification and teacher effectiveness (Darling-Hammond, Holtzman, Gatlin, & Heilig, 2005; Kane et al., 2008; Raymond, Fletcher, & Luque, 2001).
- Positive relationship between mathematics coursework with high school student math gains, but not elementary and middle or other subjects (Wayne & Youngs, 2003).
- Positive relationship between mathematics certification and student math score gains only (Wayne & Youngs, 2003).

- **Standardized Assessments**
  - **SAT/ACT**
    - Positive relationship to teacher performance (Jacob et al., 2016).
    - No relationship with teacher retention or teacher effectiveness (Robertson-Kraft & Duckworth, 2014).
    - Insignificant or negative relationship with student performance (Darling-Hammond et al., 2005).
  - **Teacher/Licensure Assessments**
    - Positive relationship between edTPA with employment, reading and some math achievement (Goldhaber, Cowan, and Theobald, 2016).
    - Positive relationship between PACT with teaching effectiveness (Darling-Hammond, Newton, & Chung Wei, 2013).
    - Positive relationship between the Praxis and with student achievement (Wayne & Youngs, 2003).
    - Applying strict hiring screens using test could have a disproportionate impact on teacher applicant pool [edTPA – Hispanics applicants fail at three times the rate] (Goldhaber, 2007; Goldhaber et al., 2016).

2. **Cognitive Ability**

*Some measure of cognitive ability, outside of standardized testing, have been shown to be predictive of student academic outcomes, in both mathematics and science, but not reading.*

- Positive relationship with student academic outcomes (Harris & Rutledge, 2010).
- Positive relationship between pointing out and explaining misconceptions in wrong answers with science score gains (Sadler, Sonnert, Coyle, Cook-Smith, & Miller, 2013).

3. **Teaching Experience & Training**

*The literature examining prior teaching experience and explicit pedagogical instruction as predictors of teaching effectiveness is mixed, yet pedagogical instruction combined with content-specific knowledge has been shown to be predictive of student outcomes.*

- Similar performance between teachers with teaching experience and none on performance evaluations within first one to ten years (Jacob et al., 2016).
- Positive relationship between teacher experience and teacher effectiveness (Clotfelter, et al., 2007a; Hanushek, 1997; Rockoff et al., 2008).
- No relationship between teacher experience and student achievement (Aaronson, et al., 2007; Betts, et al., 2003).
- Positive relationship between pedagogy coursework, stronger relationships when taught with content, and education outcomes (Rice, 2003; Wilson et al., 2001).

4. **Screening and Multiple Indicator Approaches**
   *Structured interview protocols and specific teacher screening systems have strong to moderate relationships with teacher effectiveness outcomes, but not teacher employment outcomes (e.g., teacher attendance, mobility, etc.). Tools created by local jurisdictions are more strongly related to performance than more generalized systems.*

- **Structured Interviews**
  - Moderate and weak relationships between Gallup’s Teacher Perceiver Interview (TPI) and some teacher effectiveness outcomes (Metzger & Wu, 2008).
    - Findings are stronger during employment vs. during hiring process, might not be good predictors of prospective teacher effectiveness.
- **Specific Teacher Screening Systems**
  - Positive relationship between teacher screening tools (i.e., written assessments, interviews, and teaching auditions) with teacher performance (Jacob et al., 2016).
  - Positive relationships between high ratings with higher VAMs and lower attrition (Goldhaber, Grout, & Huntington-Klein, 2017).
  - Positive relationships with more difficult to observe characteristics (e.g., classroom management ability) not higher teacher attendance (Goldhaber et al., 2017).
  - Positive relationship between a one standard deviation change in a Teach For America (TFA) screening index with student math achievement (Dobbie, 2011).
  - Screening performance literature reports strong prediction of several aspects of teacher effectiveness (i.e., student test score gains, “evaluated performance,” attendance, but not mobility) (Bruno & Strunk, 2018).

**Personality & Individual Traits**
*Measures of pre-service teachers’ individual traits (i.e., self-efficacy, grit, leadership experience, life satisfaction, values, etc.) are positively related to teacher effectiveness outcomes, with the exception of personality traits.*

1) **Self-efficacy**
   - Positive relationship with observed teaching performance outcomes (Klassen & Tze, 2014).
   - Positive relationship with job satisfaction and student achievement (Caprara, Barbaranelli, Steca, & Malone, 2006).

2) **Grit**
• Positive relationship with student academic gains (Duckworth, Quinn, & Seligman, 2009).
• Positive relationship with teacher effectiveness and teacher retention (Robertson-Kraft & Duckworth, 2014).

3) Leadership experience – positive relationship with student gains in math and reading (Dobbie, 2011).

4) Life satisfaction – positive relationship with student academic gains (Duckworth et al., 2009).

5) Values as measured through screening tools have a positive relationship with some measures of teacher quality (Metzger & Wu, 2008).

6) Personality traits
   • No relationship as an individual factor with student and teacher outcomes (Rockoff et al., 2008).
   • Weak relationship with teacher performance (Klassen & Tze, 2014).

Appendix: References


Educator Certification: Overview Types and Progression of Maryland Certificates

* January SBOE Meeting*
Types of Maryland Certificates

Conditional – 2 years (1 renewal)
• Issued to an individual that has not met the requirements.

Resident Teacher Certificate (RTC) - 2 years (no renewal)
• Issued to an individual that is enrolled in a MAAPP.

Professional Eligibility Certificate (PEC) – 5 years
• Issued to an individual that has met the requirements but is not employed.

Standard Professional (SPC) I – 5 years
• Issued to an individual that has met the requirements and is employed.

Standard Professional (SPC) II – 5 years
• Issued to an individual that is employed and has not met the requirements for the APC.

Advanced Professional Certificate (APC)– 5 years
• Issued to an individual that has met the professional coursework and experience requirements and is employed or unemployed.
Certificate Progression in Maryland

Those **not employed** in a local school system, state institution, or approved nonpublic special education program are issued a Professional Eligibility Certificate.

Those **employed** in a local school system, state institution, or approved nonpublic special education program are issued a Standard Professional Certificate and are required to advance to the Advanced Professional Certificate.

Maryland regulations provide the opportunity for the **employer** to request a Conditional Certificate when an assignment cannot be filled by a professionally certified educator.
Conditional Certificate

Teaching Areas

• Two year certificate

• Bachelor’s or higher degree (exception- Professional Technical Education areas)

• May be renewed one time, upon the recommendation of the employer, if the applicant has:
  • 12 semester hours of credit toward a plan of certification
  • Qualifying basic skills scores

Specialists/Administrators

• Two year certificate

• Nonrenewable

• Must meet the minimum degree requirements and be within 6 semester hours of completing the professional certification requirements
PEC → SPC I

Meet all requirements for professional certification in Maryland

Become employed with a Maryland local school system, state institution, or nonpublic school approved under COMAR 13A.09.10
SPC I → SPC II

3 years of satisfactory experience

6 semester hours of acceptable credit

- Earned or taught at a regionally accredited college/university or though Maryland approved Continuing Professional Development (CPD) credits
- Earned within past 5 years (within the validity period of the certificate)
- School related
- Earned in required reading coursework, if applicable

Professional Development Plan to satisfy requirements for the Advanced Professional Certificate
SPC II → APC

3 years of satisfactory experience
6 semester hours of acceptable credit

Meets one of the following:

• Master’s degree or higher in an area directly related to public school PreK-12 education, including 6 credits related to specific discipline

• 36 semester hours directly related to public school PreK-12 education, earned after the conferral of the BA, including 21 graduate credits, of which 6 credits related to specific discipline

• National Board Certification and 12 credits of graduate work related to specific discipline
APC Requirements: Professional and Technical (PTE) Teachers

Those PTE teachers who do not hold bachelor’s degree must complete the following:

- 3 years of satisfactory experience
- 6 semester hours of acceptable credit
- Planned program of 36 semester hours
  - Maximum of 12 Maryland approved Continuing Professional Development (CPD) credits may be applied
  - CPDs must be in trade related or in required reading coursework
Resident Teacher Certificate

Hold a bachelor’s degree or higher

Submit basic skills and content area tests

Complete 90 hours of study, to include teaching and learning skills and three semester hours of reading instruction

Enroll in a MD approved alternative preparation program

Complete a pre-residency internship as part of the alternative preparation program (4-8 weeks)
RTC → SPC I

Successful completion of program requirements, to include:

- 3 additional semester hours in reading instruction
- Demonstration of evidence of standards-based professional performance
- Praxis pedagogy test(s)
- Satisfactory evaluation from hiring principal
- Request from the employer for the issuance of the SPC I