The Tennessee Commission on Education Recovery and Innovation

Year Two Report
A Revitalization: Transforming Education in Tennessee
Appendix

Updated with new recommendations and supporting evidence from the Final Report

June 30, 2022

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Purpose of This Document

This document is the appendix to the Tennessee Commission on Education Recovery and Innovation's "Final Report." It provides additional information on each of the recommendations the Commission made in that report, including a more robust explanation of the rationale for and research behind each recommendation. The recommendations in this document are organized using the nine priorities that the Commission identified in its full report, each of which are supported by a menu of actionable steps to bring success, close educational gaps, and ensure every student in Tennessee has a solid foundation of knowledge and skills. Those nine priorities are:

- Ensure students master literacy and numeracy skills.
- Address learning remediation and acceleration needs.
- Strengthen, retain, expand, and diversify the state's education professionals.
- Equip schools and districts to address students' well-being.
- Optimize capacity for flexible, high-quality school options.
- Redesign high school to ensure students have access to flexible pathways to college and career.
- Streamline postsecondary systems to facilitate lifelong learning.
- Strengthen alignment across the k-12, postsecondary, and workforce systems.
- Incentivize locally led innovation.

Note that there is a glossary on page 30 of the accompanying report where bolded terms and acronyms are defined.

Priority: Ensure students master literacy and numeracy skills.

To ensure Tennessee students receive complete and adequate literacy and numeracy preparation well before they reach the all-important third-grade benchmark, the Commission is making the following recommendations to the legislature:

Recommendation	Supporting evidence
Sub-priority: Literacy	
1.Ensure recently enhanced and existing early literacy programs maintain financial viability, oversight, and accountability.	The legislature must ensure that the state's recently enacted and existing literacy programs have consistent and adequate funding.[1] In the short term, federal pandemic relief funds can support this work. Going forward, both dedicated state and federal funding streams,[2] such as Title I dollars,[3] should be designated for early literacy. The legislature must also establish oversight mechanisms, such as periodic review and evaluation of districts' plans and of education preparation programs' curricula, to ensure new legislative requirements are implemented with fidelity and are having positive impacts on students' reading outcomes.[4] Throughout this report, the Commission references "high-quality," "**evidence-based**," and "**research-based**" programs and policies and makes recommendations to implement "rigorous evaluations" of new and existing programs. When using these terms, the Commission is referring to policies, programs, and/or practices that have been studied and that have data demonstrating their effectiveness at addressing a particular problem (e.g., improving students' early literacy skills or strengthening teachers' instructional practice). The Commission encourages the legislature to consider the **Every Student Succeeds Act (ESSA)**'s tiers-of-evidence framework when determining which policies, programs, and practices have a strong basis in research.[5]
2. Establish rigorous and periodic evaluation of early literacy programs by independent evaluators (such as the **Office of Research and Education Accountability [OREA]**) and make those results public.	Program evaluation is an essential tool for policymakers and practitioners seeking to strengthen their programs and improve outcomes for students.[6] Research has informed what works for early literacy instruction,[7] and the legislature must evaluate the effectiveness of instruction and the quality of instructional materials in order to inform future changes to policy and ensure the success of Tennessee's early literacy programming. Throughout this report, the Commission references "high-quality," "evidence-based," and "research-based" programs and policies and makes recommendations to implement "rigorous evaluations" of new and existing programs. When using these terms, the Commission is referring to policies, programs, and/or practices that have been studied and that have data demonstrating their effectiveness at addressing a particular problem (e.g., improving students' early literacy

	skills or strengthening teachers' instructional practice). The Commission encourages the legislature to consider ESSA's tiers-of-evidence framework when determining which policies, programs, and practices have a strong basis in research.[8]
Sub-priority: Numeracy	
3. Create **evidence-based** professional development programs for teachers and leaders to improve math teaching and learning in order to respond to pandemic-related unmet learning, particularly for vulnerable populations.	Early math instruction is a critical equity issue for children of color and low-income children, "who are less likely than other students to achieve proficiency in math by fourth grade."[9] Research suggests that teachers who have a strong foundation in math instruction can reduce the gap between student subgroups,[10] and evidence-based intervention and teaching practice from recognized experts such as the National Council of Teachers of Mathematics is readily accessible[11] and can be taught and/or reinforced through professional development.[12] The legislature must create professional development opportunities designed around research-based practices in order to improve teachers' instructional practices in math, similar to the comprehensive approach the state has taken on literacy.[13]
4. Establish evidence-based curriculum recommendations for early numeracy.	What works in math instruction varies by grade, subject, and student need.[14] Although Tennessee requires **local education agencies (LEAs)** to select the math curriculum that best meets the needs of their students, the state must vet and publish a list of curriculum choices that meet established state math standards to help inform locally led decision-making and adoption.
Sub-priority: Funding	
5. Fund Tennessee's k-12 system and focus funding in the classroom on literacy and math initiatives, ensuring, through rigorous external evaluation and public reporting, that those dollars are resulting in significantly improved student literacy and math achievement.	Recommendation is based on discussion among commissioners to reinforce the full body of recommendations.

Priority: Address learning remediation and acceleration needs.

To both ensure that current students in need of **remediation** have access to high-quality remedial programming and reduce the number of students requiring remediation, the Commission is making the following recommendations to the legislature:

Recommendation	Supporting evidence
6. Expand long-term funding for tutoring programs designed in alignment with research-supported best practices to address known gaps in literacy and math.	Research supports the use of high-dosage or high-frequency tutoring (defined as one-on-one or small-group tutoring at least three times per week or for about 50 hours per semester)[15] for addressing learning loss and accelerating learning[16] and identifies a number of principles to ensure these programs are high quality.[17] Tennessee is currently using federal pandemic relief funding streams to support its statewide tutoring model, the **Tennessee Accelerating Literacy and Learning Corps (TN ALL Corps**),[18] which, over the next three years, will support the expansion of tutoring in Tennessee. To date, the **Tennessee Department of Education (TDOE)** has 150,000 seats committed from districts.[19] To continue this work when the current funding stream ends, legislators must identify a long-term funding source for remedial literacy and numeracy interventions.
7. Expand access to, and continue in the long term (including by providing long-term state funding), programs created by recent legislation (e.g., bridge camps, after-school learning mini-camps, and summer learning camps) that are demonstrating effectiveness at accelerating student learning.	In addition to TN ALL Corps programs described above, the state also offered matching grants for community partners to help accelerate students' learning.[20] Going forward, the TDOE plans to provide resources for instruction in summer learning camps and district and community partner grants in support of high dosage tutoring models.[21] The **Learning Loss Remediation and Student Acceleration Act** requires the evaluation of and reporting on the programs it created.[22] The state must ensure ongoing evaluation of these and any newly developed programs in order to determine which programs are working well. Those that are proven to successfully accelerate learning must receive ongoing state investment.[23]
8. Support early interventions and **research-based** materials and instruction for k-12 students to minimize the need for postsecondary remediation.	When it comes to student remediation, the ultimate goal of the legislature must be to reduce the number of students who require it. To do that, legislators must support early interventions[24] and the use of high-quality instructional materials[25] by providing guidance, financial investment, and ongoing evaluation of existing programs in alignment with the other recommendations included in this report.
9. Create an **early warning data system (EWDS)** and corresponding interventions, ensuring integration across existing data systems and equal access and support (including funding) for implementation across districts.	Students begin dropping out of school years before they actually stop attending. To identify younger students who are at risk for dropping out of high school and intervene early to get them back on track, some states have created so-called "early warning data systems" (EWDSs), which combine multiple measures of academics and behavior.[26] While not explicitly remediation tools, these systems track student progress over time on a variety of metrics and can help ensure students in need of additional support are identified early and

	provided the resources they need to be successful. Texas' EWDS, for example, tracks both academic and behavioral data and flags when a student is at risk for dropping out. That student is then provided additional resources and intervention to mitigate their risk of dropping out.[27] The Tennessee legislature should create a similar EWDS to leverage existing data collection across Tennessee's k-12 students, make it available in a timely and usable form for educators, and ensure students who are at risk of dropping out are identified early and supported, both to prevent dropout and to support students staying academically on track throughout their education journey. As noted in the body of the report, Tennessee's universal reading screener, enacted as part of the Literacy Success Act, would be an important input into this system.[28]
10. Establish metrics to track and periodically report on student remediation and **acceleration**, and ensure those data are used to inform classroom practice.	As the legislature works to address students' learning remediation and acceleration needs, it will be imperative that it puts in place specific, measurable goals related to reducing remediation needs overall and by student subgroup and that it holds schools, districts, and the state accountable for meeting those goals.

Priority: Strengthen, retain, expand, and diversify the state's education professionals.

In order to staff Tennessee's classrooms with high-quality teachers who can meet the social, academic, and cultural needs of Tennessee's students, the Commission is making the following recommendations to the legislature:

Recommendation	Supporting evidence
Sub-priority: Strengthen educator preparation and training opportunities.	
11. Strengthen the classroom-based **clinical practice** for all teacher candidates across all preparation pathways to include components of high-quality, research-based clinical experiences.	Clinical practice (often called "**student teaching**") is one of the most important parts of teacher education.[29] The **National Research Council (NRC)** noted clinical experiences have among the highest potential for effects on student outcomes.[30] Other research has found first-year teachers can be as effective as third-year teachers if they spend their student teaching experience learning from highly effective teachers.[31] Elements of high-quality clinical experiences include (1) a *minimum* of a 10-week, full-day experience; (2) regular observation and feedback by program supervisors; and (3) ensuring the candidate is paired with a highly effective mentor teacher.[32] Tennessee's own work on the Mentors Matter Initiative demonstrates that "pre-service teachers with more instructionally effective clinical mentors perform better during their first year of teaching as measured by observation and growth scores, feel more prepared, and report more frequent and higher-quality coaching."[33] The State Board of Education (SBE) and the TDOE, who set requirements for clinical practice, should enact policies to ensure all candidates pursuing teacher certification, regardless of certification route, have access to a high-quality clinical experience that prepares them to be effective teachers.
12. Strengthen the curriculum in educator preparation programs for both teachers and leaders to ensure they have the knowledge and skills to meet students' diverse academic and well-being needs.	Content knowledge is critical for all teachers, regardless of the grade(s) or subject(s) they will teach.[34] So too is an understanding of how to meet students' emotional and well-being needs.[35] Pursuant to the Literacy Success Act, Tennessee's educator preparation programs must cover foundational literacy skills, behavior management, and trauma-informed practices.[36] The legislature must consider similar improvements for other content areas, grade levels, and skill sets to address all aspects of teaching for all students.
13. Create or expand high-quality, research-based, state-facilitated professional development opportunities to support teachers in using data to inform their instruction and meet the needs of individual students.	Research has shown that using data in instructional decisions can lead to improved student outcomes.[37] However, while teachers have access to a wide range of data on their students, they often lack the skills and support necessary to use data effectively to drive their instruction.[38] The state can take steps to support teachers in developing the skills they need to use data in their day-to-day classroom instruction through targeted professional development, the support of

	instructional coaches trained to develop teachers' ability to use data to inform their teaching strategies, and providing dedicated time for learning.[39]
14. Increase educator compensation with the intent of elevating the profession and increasing competitiveness in Tennessee's educator labor market.	While there is variation across and within states, teacher salaries in the United States are generally lower than those offered to other college graduates. Even after adjusting for the shorter work year in teaching, beginning teachers nationally earn about 20% less than individuals with college degrees in other fields. That wage gap can widen to 30% by midcareer.[40] In 2021, Tennessee raised the base teacher salary to $38,000 — an increase of $2,000 over the last two years.[41] Even so, a recent study estimated that the average Tennessee teacher salary, adjusted for cost of living, was $54,097 — compared with the average Tennessee salary for all workers at $45,650.[42] Tennessee ranks 35th nationally in this survey (in the bottom third). Research suggests raising teacher salaries can increase both teacher recruitment[43] and retention.[44] Over time, higher salaries can help increase the attractiveness of the teaching profession to talented individuals, increasing the competitiveness of the applicant pool, enabling greater selectivity in hiring processes, and resulting in more high-quality teachers in Tennessee classrooms.
Sub-priority: Expand the educator pipeline.	
15. Expand and strengthen the existing Minority Teaching Fellows Program.	College students of color are less likely to enroll in educator preparation programs compared to white students.[45] While there are a variety of reasons for this, the increasing debt burden of college may play a role. Scholarship and fellowship programs, which help reduce or eliminate the debt burden, are one way to potentially increase the number of students of color enrolling in preparation programs. Tennessee's Minority Teaching Fellows Program provides up to $5,000 per year for Tennesseans of color who pursue teacher certification at Tennessee-based universities.[46] In 2020, however, the program awarded scholarships to just 43 students — a relatively small number of potential teachers of color.[47] Expanding this program, through additional funding, marketing, and enrollment, is one lever to help Tennessee address its large diversity gap.
16. Provide technical assistance to districts, in particular rural districts, to establish partnerships with local educator preparation programs to create local Grow Your Own programs.	**Grow Your Own (GYO)** is a teacher preparation strategy focused on developing and retaining teachers from a school's or district's local community.[48] Though many GYO programs are too new for comprehensive evaluation, educators and policymakers alike continue to consider them a best practice in developing more high-quality teachers.[49] Emerging research suggests that teachers who complete GYO programs tend to remain in the profession, reducing the cost of hiring and training new teachers as a result of teacher turnover.[50] Sixty-five Tennessee school districts currently foster GYO programs through the TDOE's GYO competitive grant.[51] In June 2021, the TDOE allocated an additional $4.5 million in GYO grants

	across Tennessee.[52] With the program and funding already in place, the next step is to strengthen and expand existing technical support to districts — particularly small and rural districts lacking in-house capacity to implement a new initiative — to develop the infrastructure needed to launch new GYO programs.[53]
17. Create a strong evaluation plan for GYO programs to ensure these programs result in high-quality educators being placed in Tennessee's classrooms.	Program evaluation is an essential tool for policymakers and practitioners seeking to strengthen their programs and improve outcomes for students.[54] As noted above, GYO programs are relatively new, and there's minimal research on their effectiveness — though what research exists is promising. As the state scales up its financial investment in GYOs, the legislature must develop a strong plan to evaluate the outcomes of any new GYO programs in order to determine their impact on goals such as teacher recruitment and retention.
18. Incentivize postsecondary institutions to work with their partner districts to cultivate new teacher pipeline programs.	Partnerships between postsecondary institutions and local school districts can be powerful levers for strengthening teacher pipelines, ultimately resulting in teacher candidates who better meet local districts' needs.[55] Well-designed partnerships ensure educator preparation programs focus on recruiting and training educators in grade levels and subject areas that districts actually need, enable stronger clinical experiences for teacher candidates, streamline hiring for schools and new teachers, and can include other benefits, such as support for early service teachers through the educator preparation program. Incentivizing postsecondary institutions to engage in these partnerships can help encourage them to launch new or formalize existing relationships with their local school districts, leading to an enhanced pipeline of educators throughout Tennessee.
19. Create new state-operated financial incentive programs for highly effective teachers and leaders.	Financial incentives, such as signing or retention bonuses or loan forgiveness programs, are one way state policymakers can recruit and retain high-quality educators when across-the-board pay raises are not possible. During the 2013-14 school year, TDOE provided funds to districts to pay signing bonuses to high-quality teachers who transferred to priority schools and retention bonuses to high-performing teachers who stayed in priority schools.[56] Evidence suggests the retention bonuses had a positive impact on teacher retention in priority schools.[57] Tennessee also previously operated two teacher loan forgiveness programs, the Tennessee Teaching Scholars Program and the Tennessee HOPE Teacher's Scholarship (also called the Tennessee Math and Science Teacher Loan Forgiveness Program). Both of these were eliminated under the **Financial Aid Simplification for Tennesseans (FAST) Act** of 2020.[58] Reestablishing financial incentive programs for high-quality teachers and leaders (those with a track record of improving student achievement) can further help the state address shortages and attract the state's best educators and leaders to where they are most needed.

20. **NEW:** Increase curriculum-based professional development to support implementation of new materials.	Research shows teachers need professional development specifically focused on both the adopted curricular materials and state standards to implement curriculum most effectively.[59] The authors of *Learning by the Book,* a 2019 report by Harvard's Center for Education Policy Research, noted that many districts surveyed for the report "approached the new curricula as they have curriculum adoptions in the past: They simply swapped out the materials teachers use but left instruction unchanged."[60] In the 2016-17 school year, the average teacher received only 1.1 days of professional development devoted to their curriculum. Due in part to this lack of training and familiarity with the newly implemented materials, teachers frequently supplement approved curriculum materials with resources they found on their own rather than fully leveraging the potential benefits of vetted, high-quality curricular materials.[61] As part of its curriculum adoption process,[62] TDOE should provide districts with access to additional professional development for teachers to effectively implement new curriculum materials. This type of professional development can ensure teachers are equipped with the knowledge and skills needed to adapt their instruction to new curricular requirements.
21. **NEW:** Reinstate statewide financial support for hiring and retention bonuses for teachers in hard-to-staff positions and low-performing schools.	See description above about reestablishing financial incentive programs for high-quality teachers and leaders. Tennessee will increase the impact of these financial incentives if directed toward filling hard-to-staff positions and placing high-quality teachers in low-performing schools.
22. **NEW:** Direct the TDOE, the **Tennessee Higher Education Commission** (THEC), and Student Assistance Corporation to better communicate loan forgiveness and fellowship opportunities on their websites.	THEC currently provides a webpage dedicated to state and federal financial aid information.[63] However, this webpage does not feature loan forgiveness and/or fellowship opportunities, as the FAST Act of 2020 eliminated two teacher loan forgiveness programs (see above). The Student Assistance Corporation has a webpage with financial aid opportunities hosted on the College Pays TN website.[64] THEC, TDOE, and the Student Assistance Corporation should prominently and clearly display this information consistently on their websites so potential teacher candidates have access to critical financial resources and the information they need to make informed decisions.
23. **NEW:** Update the data collection process and guidance around **differentiated pay**.	In December 2019, the Tennessee Comptroller of the Treasury released a brief on differentiated pay across Tennessee school districts. In the brief, they had three recommendations for how differentiated pay data could be improved so the **OREA** could better evaluate the effectiveness of this pay incentive: ● "Update the data collection process so that payouts for specific differentiated pay initiatives are linked to individual recipients." ● "Include more prominent guidance and clearer explanations on how districts should respond to survey questions and include additional survey questions."

	● "Issue more frequent communications to improve the completeness and accuracy of the differentiated pay data reported by districts." [65] The legislature should require TDOE and SBE to implement these recommendations to improve the quality of differentiated pay data, which will allow the state to study how different pay structures impact teacher recruitment and retention.
24. **NEW:** Increase alternatives for retirement options for educators.	Tennessee teachers are either in the Legacy plan or the Hybrid plan, based on whether they started before July 1, 2014, or after, respectively.[66] Both plans combine aspects of the defined benefits provided through the Tennessee Consolidated Retirement System (TCRS), the state's 401K, and "retirement readiness education." The main difference is Legacy retirees collect an "unreduced monthly retirement benefit" at age 60, whereas Hybrid retirees must be 65. The Tennessee Department of Treasury should continue to assess these plans and consider additional retirement options that are flexible and portable. Adding more flexible alternatives could help Tennessee attract and potentially retain teachers.

Priority: Equip schools and districts to address students' well-being.

To ensure all schools are equipped to meet the well-being needs of Tennessee's students, the Commission is making the following recommendations to the legislature:

Recommendation	Supporting evidence
25. Incentivize the expansion of existing, and the development of new, high-quality programs to support students' well-being.	High-quality mentoring programs produce a range of tangible benefits for youth, including improved grades, stronger family relationships, and decreased alcohol and drug use.[67] They can also lead to improvement in a student's academic behavior, attitudes, and performance.[68] Tennessee, like most states, has a variety of school- and community-based mentoring programs in place that are designed to support well-being and social and academic development. The state must take steps to identify the programs producing the strongest outcomes for young people and invest in their expansion. Moreover, a state grant program is needed to support local institutions, including k-12 schools, postsecondary institutions, nonprofit organizations, and community groups, in meeting the well-being needs of the young people attending local educational institutions. The legislature should design this grant program to be broad enough to allow local leaders to identify the most pressing needs facing students in the local schools and design programs to address them while ensuring it has clear expectations guiding the use of funds, including identified goals, measures of success, and target populations.
26. Provide professional development to equip all staff to recognize students' well-being needs, **especially adverse childhood experiences (ACEs)**, and know when and where to refer students for more support.	Tennessee must ensure that its teachers and other school staff members know how to recognize students' well-being needs and that they are armed with the resources to handle those needs — whether that means addressing them within the classroom or school or connecting students with other professionals to get the help and support they need. Tennessee has done some of this training already, focused on ACEs and trauma-informed care.[69] However, given the negative impact the last two years' worth of disruptions have had on students' well-being, the state must strengthen and expand professional development opportunities related to student well-being.
27. Fully fund school-based nurses, counselors, and social workers in line with **Basic Education Program** Review Committee 2021 recommendations.	Currently, Tennessee provides one counselor for every 500 students in grades K-6 and one for every 350 students in grades 7-12. For school nurses, the ratio in Tennessee is 1 to 3,000.[70] These ratios are well outside of those recommended by professional organizations and research-based best practices. Tennessee's Basic Education Program (BEP) Review Committee recently recommended the state adopt new guidelines for counselors and nurses, including the 1-to-250 counselor-to-student ratio recommended by the American School Counselor Association and the 1-to-750 nurse-to-student ratio recommended by the U.S. Department of Health and Human Services.[71] The legislature must adopt and fund

	the recommendations made by the BEP Review Committee related to counselors and nurses. And while the BEP Review Committee did not recommend an increase in social workers, given their training and background and the many needs of Tennessee's students, the legislature should consider increasing their presence in schools as well to provide additional direct and referral services to students, families, and school personnel.[72]
28. Incentivize partnerships between education systems and existing mental and behavioral support systems to help educators and community members understand and leverage existing resources.	While it is critical that school personnel know how to recognize students' well-being needs, educators may not be the right people to help students deal with trauma, crises, or other mental, emotional, or behavioral health needs. To facilitate students' access to professionals who can meet these needs, the legislature must incentivize partnerships between schools and existing support systems. Research has found a strong correlation between school, family, and community involvement and student success.[73] Facilitating these partnerships will help ensure educators have access to the resources their students need, including access to professionals trained to support students in their unique circumstances.

Priority: Optimize capacity for flexible, high-quality school options.

In order to ensure all of Tennessee's young people are able to take advantage of flexible, high-quality educational options, the Commission is making the following recommendations to the legislature:

Recommendation	Supporting evidence
Sub-priority: Ensure communities, schools, families, and students have technology, infrastructure, and devices.	
29. Rigorously evaluate and hold current statewide internet infrastructure initiatives and future investments accountable to ensure goals and outcomes are met.	The state of Tennessee currently has several programs in place aimed at improving students' and community members' access to fast, reliable internet and devices. Evaluating current programs — and ensuring new programs include strong evaluation plans — can help policymakers understand how well the programs are operating, determine whether they are working as intended and meeting stated objectives, and, ultimately, make better judgements about the effectiveness of the programs and whether or not to continue them.[74]
30. Incentivize the coordination and innovation of universal broadband access.	Increased broadband availability is linked to better economic[75] and educational[76] outcomes for communities. And the COVID-19 pandemic, and the sudden shift to virtual school and work, has made it clear just how critical it is that families and students have access to fast, reliable internet service.[77] It is imperative that state policymakers continue to incentivize coordination across entities and support innovative approaches to providing universal broadband access to ensure all of the state's community members have access to this essential service. *(Importantly, the goal here is to ensure that all Tennesseans have access to high-speed internet, which can be wireless and does not necessarily require laying miles of new cable.)*
31. Require districts to maintain infrastructure, including devices, **integrated technology** platforms, and connectivity solutions, to seamlessly transition modes of instruction, and provide ongoing support and state funding.	In the midst of the COVID-19 pandemic, the TDOE took a number of steps to support districts in providing internet and devices to students, including grants to support **MiFi** access and a more recent partnership with T-Mobile.[78] One-time investments are important in times of crisis but are not sufficient for the long term. The legislature must require districts to have in place, on an ongoing basis, the technology necessary to support online modes of instruction and, importantly, the legislature must provide the funding and technical assistance necessary to establish and maintain that technology.
32. Require periodic virtual "drills" both to ensure schools, students, and families can move seamlessly between virtual and in-person delivery modes and to identify and address infrastructure-related challenges.	Just as regular fire drills are important for ensuring students and faculty know what to do in case of a fire-related emergency,[79] **virtual drills** can help equip students, family members, teachers, and district personnel with the knowledge and skills to navigate a future crisis that results in a shift to online schooling. Virtual drills will help students and teachers prepare for online instruction, identify challenges and technical glitches, and ensure the district's technology infrastructure is

	in working order. Virtual drills are periods of remote or hybrid instruction.
Sub-priority: Ensure access to flexible, high-quality options regardless of setting.	
33. Hold online schools receiving public funding accountable through existing school accountability structures.	Like other public schools in Tennessee, virtual schools must regularly assess students in language arts, math, science, and social studies.[80] Tennessee's **Virtual Public Schools Act** further stipulates virtual schools must be evaluated annually based on (1) the extent to which the school demonstrates increases in student achievement and (2) the accountability and viability of the virtual school, as demonstrated by its academic, fiscal, and operational performance.[81] It is imperative the legislature continue to hold virtual schools accountable through the same structures that are in place for other public schools in the state in order to ensure students enrolled in these schools are receiving a high-quality education.
34. Enjoin educator preparation programs to incorporate best practices for multiple modes of delivery, including remote instruction, into their instruction and field experiences for all teachers.	Most teacher preparation programs do not prepare candidates to teach online[82] (just 4% offered a field experience in online settings as of 2016),[83] despite the fact that it is a very different environment requiring a different set of skills. Even the best classroom teachers' in-person instructional skills do not necessarily translate online.[84] Virtual teachers are managing a very different relational dynamic with their students[85] and often juggling much larger class sizes.[86] Given the differences, it is imperative that educator preparation programs equip teacher candidates with skills and best practices to teach in a variety of settings — including online.
35. Provide ongoing professional development to k-12 educators to develop and strengthen remote instruction skills.	As the COVID-19 pandemic has shown, even teachers who hold positions in traditional brick-and-mortar schools teaching in person may end up having to teach online at some point in their careers. Research has established guidance and best practices for online instruction,[87] and the legislature must ensure all of Tennessee's teachers are equipped with skills and strategies for teaching in a variety of settings, including online, to facilitate ongoing education in the event of another crisis requiring a shift to online schooling and to enable a range of high-quality educational options to families and students.
36. Require that all curricula purchased by districts have an integrated technology-based capability and that districts establish and/or maintain the infrastructure and training required to fully leverage curricular resources across modes, allowing districts to seamlessly switch between delivery modes as necessary.	In addition to ensuring teachers, students, and families are equipped to move seamlessly between online and in-person instruction in the event of another crisis, the content, curricula, and resources that schools adopt and use must also be transferable between modes of instruction. It will help mitigate breaks in learning if students can seamlessly continue their lessons in a different setting. The legislature must require districts to purchase curricular materials with this capability to ensure they have the necessary infrastructure in place.

37. Clarify how enrollment, admissions, and financial aid policies classify graduates of virtual schools, then communicate with students and families about the impact attending a virtual school has on eligibility and access.	When most of Tennessee's financial aid language was adopted into statute, there were not enough virtual schools, or students attending them, to accommodate them in the language governing financial aid policies. In the absence of specific language for those students, the state has treated the graduates of those programs as though they were home-schooled students, despite the fact that many of the virtual programs are regionally accredited or might have full **articulation** programs with Tennessee's local school districts. However, the last several years have seen continued growth in the number of students attending virtual schools — a trend accelerated by the pandemic — making it imperative for the legislature to develop some clear definitions and classification language for these populations of students, including the development of rubrics to discern how the state will accommodate these graduates for purposes of enrollment, admissions, and access to the state's financial aid portfolio. The legislature has begun to address the financial aid-related challenges with recent legislation; however, it must both continue to remedy the challenges and communicate with students and families about how the changes impact eligibility and access.
38. **NEW:** Develop common definitions of high-quality k-12 curriculum and objective rubrics to evaluate materials.	EdReports, a nationally recognized independent reviewer of textbooks, has created several tools for reviewing curriculum materials[88] and reports having reviewed approximately 90% of the known k-12 mathematics and **English language arts (ELA)** materials in the market.[89] EdReports or other processes used in other states could serve as a model or benchmark for Tennessee. Tennessee has a set of rubrics that were created in 2019.[90] TDOE should convene a working group of teachers, practitioners, and/or experts to review and revise these rubrics to ensure they align with best practice for high-quality curriculum.
39. **NEW:** Encourage districts to use the highest-rated k-12 curriculum materials.	Investing in high-quality curriculum materials is one of the most cost-effective practices a district can use to improve student outcomes. A report conducted by Chiefs for Change found "high-quality, research-backed curricula can improve student outcomes with very little added cost to districts," because of the marginal differences in the cost of more effective and less effective curricula.[91] The Center for American Progress found that "the average cost-effectiveness ratio of switching curriculum was almost 40 times that of class size reduction (another common practice to improve student outcomes)."[92] TDOE should encourage districts to adopt and implement the highest-rated k-12 curriculum materials in tandem with the recommendation above to provide professional development for teachers in using the curriculum. Examples of potential

	incentives include mandating that a percentage of state funds go toward purchasing materials that are only in the top 20th percentile of those on the approved list or adding points to competitive grant applications for the use of high-quality materials.[93]
40. **NEW:** Change current law to prioritize admittance for low-income students seeking **open enrollment**.	Research has found open enrollment is more often used by "socioeconomically advantaged students" than "low-income, at-risk students" who might benefit the most from this option.[94] Tennessee should change its open enrollment law to prioritize low-income students when filling available open enrollment seats.
41. **NEW:** Explore models that could enable the provision of transportation to students.	Transportation has been identified as a common and significant barrier to low-income students accessing open enrollment options. The Education Commission of the States identifies two key studies: One study found the lower the family income, the more likely transportation was a barrier to open enrollment. Another study found that the farther the distance required to access an interdistrict transfer (i.e., to a school outside their residential, zoned district), the less likely a student will pursue open enrollment.[95] Tennessee policymakers should explore different approaches for providing free or subsidized transportation for low-income students to reduce barriers to accessing open enrollment.
42. **NEW:** Establish common open enrollment windows and application processes for all schools and districts and move toward common enrollment systems at the district level by 2030.	Legislation passed in 2021 requires each LEA to offer open enrollment.[96] All intradistrict transfers (i.e., students residing within the school district but not assigned to the school they prefer) must be accommodated before interdistrict transfers (i.e., students applying from outside the district) are enrolled.[97] The legislation also standardizes basic information (i.e., available seats at the building, grade, class, and program levels) that LEAs must make publicly available at least two weeks prior to the required 30-day minimum open enrollment period.[98] Still, families may have to navigate systems, requirements, and timelines that differ across districts, which can create barriers for families trying to access open enrollment policies.[99] Tennessee should expand access to open enrollment by further standardizing the open enrollment application window and application processes statewide.
43. **NEW:** Fund established charter school facilities on a per-student basis at an equitable level relative to other types of public schools located within the same school district.	Facilities and funding are two of the biggest challenges facing charter schools.[100] Charter schools spend 10% of funding for operations to provide facilities, on average.[101] By contrast, traditional public schools do not have to use funding for operations for facilities provided by a district. They have specific funding streams to support facilities costs. Without facilities spending, charter schools can dedicate more of their budget to teacher pay and student resources. Tennessee law requires districts that have charter schools operating within their district boundary to list "underutilized and vacant properties owned by the district" available for rent to

	charter operators.[102] The Tennessee legislature should consider providing additional funding for charter school facilities.
44. **NEW:** Strengthen charter school accountability by requiring charter school contracts to specify authorizer roles, powers, and responsibilities.	The National Alliance of Public Charter Schools (NAPCS) provides an annual ranking of states' charter school laws relative to its "model law" and identifies areas for improvement.[103] In 2021, Tennessee ranked 25th out of 45 states and Washington, DC in terms of the strength of its charter school law.[104] NAPCS identified several areas for improvement for Tennessee's charter law, including strengthening charter school oversight (i.e., the statute does not require authorizers to notify schools of problems or provide authorizers with authority to take appropriate corrective actions).[105] Tennessee legislators should strengthen accountability for charter schools by revising the state's charter law to specify authorizer roles, powers, and responsibilities.
45. **NEW:** Consider amending Tennessee's current homeschool/microschool/ learning pod law to protect at-risk students by requiring providers contracted by parents to complete background checks and providing a system that flags providers with a history of abuse and/or neglect.	Students in nontraditional settings should be protected from potential abuse by a non-family member instructor, just as children in public school settings are protected through personnel background checks. Some states, such as Pennsylvania, require certification that the homeschool "supervisor, all adults living within the home, and persons having legal custody of the children have not been convicted of certain criminal offenses within the past five years."[106] The Tennessee legislature should consider if the laws for alternative types of schooling adequately protect nontraditional students from potential abuse or neglect. If the law does not adequately protect nontraditional students, the legislature should implement a background check for non-family instructors and/or other protective measures for students in these settings.
46. **NEW:** Require OREA to study the current landscape of homeschools, microschools, and learning pods in Tennessee. For each, evaluate current status and standards, and assess implications of these trends on postsecondary participation.	Since the pandemic started, homeschooling has increased in popularity in Tennessee and across most of the country. U.S. Census data indicated 13.2% of students in Tennessee were homeschooled in the fall of 2020 as compared to 5.4% in the late spring of 2020, an increase attributed to the pandemic.[107] Microschools and learning pods are relatively recent alternatives or supplements to traditional schools. Microschools are similar to "one-room schoolhouses" with a small number of students learning from one or more instructors. Learning pods are very small groups of students learning together in a setting that may be in a school, a home, or a community building. Their learning may be with or without an instructor or parent, often using online platforms as a supplement to traditional school settings. With more Tennessee students participating in these options, requiring OREA to review the current landscape of homeschools, microschools, and learning pods will better inform the Tennessee legislature of the need for new or revised statutes.

47. **NEW:** Ask TDOE to initiate a study to determine (a) which student populations (e.g., special education, English learners, students with disabilities) lack access to supplemental learning options, (b) what supplemental learning options are effective, and (c) an assessment of schools and parents representing those student groups to determine what program design features would best enable access.	States such as Idaho,[108] Indiana,[109] and Texas[110] have programs that provide small grants or stipends for low-income and/or special education students. Public funding from these programs can be used for supplemental educational opportunities and materials based on established eligibility criteria. These programs are relatively new and in some cases have been operating for a limited time period using federal pandemic-related funding streams. As such, there is very little evidence on the effect these types of grants or stipends have on student outcomes. In the absence of meaningful data, TDOE should initiate a study of the supplemental learning options to determine what opportunities are available to students, what barriers to access exist for students, and which opportunities have a positive effect on student outcomes. TDOE should also convene a working group of teachers, practitioners, and/or experts to provide input into the effectiveness of supplemental learning options.
48. **NEW:** In public accountability reporting (school report cards, websites, etc.), include additional contextual information related to school quality and success, including well-being. Examples of other potential indicators include suspension or expulsion rates; ratings of school safety; access to effective career guidance and counseling; or teacher and school leader attrition, retention, and mobility.	In 2015, No Child Left Behind was replaced by ESSA. This marked a shift in accountability, with a particular focus on preparing all students for college and career.[111] Tennessee's ESSA plan was adopted in 2017.[112] It includes Tennessee's six annual school accountability indicators: achievement, growth, Ready Graduate percentage, graduation rate, chronically out of school percentage, and performance on the English Language Proficiency Assessment.[113] While these measures capture important data, the TDOE should consider including additional measures, potentially on publicly available school report cards, that would provide a clearer, more detailed overview of a school's quality and success. Potential indicators to consider are included in this recommendation (e.g., discipline rates, student access to postsecondary planning, and evaluative teacher and school leader measures).

Priority: Redesign high school to ensure students have access to flexible pathways to college and career.

To completely redesign the high school experience, the Commission is making the following recommendations to the legislature:

Recommendation	Supporting evidence
49. Evolve all districts to offer multiple pathways toward postsecondary credentials and degrees, including through industry certification programs, microcredentials, **Tennessee Colleges of Applied Technology (TCATs)**, community colleges, four-year institutions, and other opportunities, with integration to allow students to move among pathways if one isn't a good fit, and evolve funding streams to mitigate disincentives for k-12 and postsecondary systems to enable flexibility for students.	The legislature must move beyond the traditional four-year approach to high school programming and toward one offering a variety of pathways, among which students can choose. This means strengthening partnerships between k-12 institutions and TCATs, community colleges, and four-year institutions to create course offerings aligned to different pathways; structuring the school day and year to allow students to complete their coursework on a variety of timeframes; and importantly, evolving how both k-12 and postsecondary are funded to support this new approach. These pathways must allow for students to move between them if one is not a good fit. Critically, the state must keep an eye on the quality and outcomes of all pathways and monitor whether certain student groups are over- or underrepresented in any pathway, particularly in ways that limit opportunities for students.[114]
50. Ensure every high school student has the opportunity to attend a TCAT or to substantively complete sufficient early postsecondary coursework toward an institution or industry credential while in high school.	Tennessee currently has 27 TCATs providing state-of-the-art technical training for students to acquire the skills and training needed in today's 21st-century workplace.[115] The state must take steps to make TCATs universally accessible to k-12 students across the state, regardless of where they live — whether that is in high-growth places like Shelby County or in one of the many rural communities throughout the state. This can be accomplished through colocation of facilities, transportation agreements, or other arrangements.
51. Fully fund dual enrollment courses for high school juniors and seniors and expand dual enrollment courses to include qualified freshmen and sophomores.	Currently, the Dual Enrollment Grant covers the costs of tuition and fees for high school students who are dually enrolled in postsecondary courses at a community college.[116] However, there are limitations to both the amount of tuition and fees covered and to the number of courses the grant will cover for an individual student.[117] Moreover, only high school juniors and seniors are eligible for a Dual Enrollment Grant. To enable more students to take advantage of dual enrollment courses, the legislature must both fully fund courses for students and expand eligibility requirements to include freshmen and sophomores.
52. Require districts and provide funding to support students in accessing a meaningful senior-year capstone experience such as an apprenticeship, a co-op, an internship, or another	The college admissions calendar encourages students to work hard during their sophomore and junior years in high school because students' course choices and grades during those years are reviewed by admissions officers. But there are few incentives for students to continue working hard and taking rigorous courses throughout their senior year, as college

industry- or **work-based learning (WBL)** experience, including opportunities to earn both course credit and wages.	admissions decisions typically do not account for senior-year coursework or grades with the same scrutiny.[118] As a result, many seniors spend their last semester (or full year) taking easy classes and waiting to graduate. Upon high school graduation, however, students often enter college lacking both the academic and life skills necessary to succeed.[119] As part of its approach to high school redesign, the legislature must recast senior year as an opportunity for students to gain additional skills that will help them succeed post-graduation, in particular by participating in a WBL opportunity. There are a variety of approaches the legislature could take to make this happen, such as incentivizing schedule flexibility to allow students to spend half of their day on a job site, learning a skill or apprenticing with a professional, with the other half of the day in classes required for graduation, or offering dual credits for these experiences to help students begin accumulating postsecondary credits.
53. Move to an hours-per-year minimum to give districts flexibility over their calendars, with some guardrails to ensure districts maximize quality instructional time for students.	Currently, Tennessee requires schools to be in session a minimum of 180 days per year and a minimum of 4 hours per day in kindergarten and 6.5 hours per day in grades 1-12.[120] In recent years, however, states across the nation have been shifting from mandating days per year or hours per day to mandating a minimum number of hours per year.[121] Doing so can provide flexibility to districts to create schedules that best meet the needs of their local community. It is important to note, however, that there is limited research either for or against an hours-per-year approach to instructional time.[122] Research does demonstrate, however, that the *quality* of instruction students are exposed to during the school day is more important than the quantity — meaning the legislature must also implement guardrails to ensure that, if districts do take advantage of flexibility, they are doing so in ways that maximize quality instructional time.
54(a). Create a high school equivalent to the **College Level Examination Program (CLEP)** test to allow students to show proficiency in subjects at the secondary level for the necessary credits while altering the BEP to eliminate disincentives for districts for early graduation.	CLEP exams can be taken by students and adults to assess mastery of postsecondary-level material acquired in a variety of ways.[123] These exams allow students to earn credit for postsecondary coursework. To facilitate students' ability to move through high school at their own pace, the legislature should create similar tests for high school courses. Students who pass a subject matter exam would receive high school credit and be able to progress on to the next level, potentially allowing them to complete high school more quickly. At the same time, the legislature must rethink school funding to support faster-than-average progress through high school and address factors in the school funding formula that disincentivize district leaders from encouraging students to take advantage of these opportunities — namely, that school districts lose funding when students graduate early.
54(b). Conduct research to identify challenges with **the Move on When Ready Act** and	Enacted in 2011, the Move on When Ready Act allows students to graduate from high school early.[124] It differs from districts' traditional early graduation policies in that it allows

develop and implement a plan to strengthen it.	students to graduate significantly earlier under an abbreviated course load (requiring 18 credits instead of 22). The program was evaluated once, in 2017. That evaluation noted district leaders have cited concerns with the program's design and implementation. However, there was very limited data available for this evaluation — with no data prior to the 2016-17 school year — and thus the study is quite limited. The legislature ought to undertake a follow-up study with additional years of data to better understand the challenges that exist and develop a plan to address them in an effort to make this pathway more viable for students.
54(c). Leverage best practices from the **Governor's Investment in Vocational Education (GIVE) Act** to create scalable WBL and apprenticeship models statewide.	The GIVE Act, which facilitates alignment and collaboration between education and local workforce partners through a roughly $50 million competitive grant program to date, has proven quite successful to date.[125] To provide more high school students with high-quality, WBL experiences, the state must identify best practices from this program that have led to its success and put those into practice to scale other WBL and apprenticeship programs across the state.
55. Pilot competency-based delivery models in high school to identify existing models and scalable best practices.	**Competency-based education (CBE)** departs from the traditional model of students progressing through content at a similar pace with similarly aged peers, prioritizing instead flexible pacing along various pathways.[126] Students are required to demonstrate mastery of complex and transferable learning targets before moving on to new material. Early research indicates exposure to CBE strategies and approaches is correlated with several positive outcomes, specifically proficiency gains in ELA and math,[127] improved performance on standardized tests,[128] and better performance on other assessments.[129] These outcomes are typically present when the strategies studied include clarity around academic expectations, competency-based standards, and use of multiple assessment types.[130] Tennessee initiated a CBE pilot program in 2018[131]; however, it is not a priority of the current administration. The legislature must reengage in the study of CBE as yet another possible way to redesign high school and help students progress at their own pace. Importantly, however, as the state studies and considers CBE, it must pay close attention to the complexities CBE introduces related to teacher certification, high school graduation requirements, transcript reporting, funding, and its potential to exacerbate achievement gaps and inequities among student groups.[132] Renewing and revamping the pilot with stronger state supports and incorporating lessons from other, similar state pilots could be a first step.
56. Incentivize the expansion of existing mentoring programs to support students in exploring and aligning their career goals and postsecondary pathways.	Research demonstrates that high-quality mentors can help improve college-going rates for high school students, particularly among groups of students who may not otherwise have considered enrolling in postsecondary education.[133] To support the state's efforts to both redesign high school and

	improve postsecondary completion rates, the legislature ought to take steps to identify successful college access mentoring programs and scale them to support more students in exploring their post-high school options.
57. **NEW:** Adopt and implement a program in collaboration with industry and TCATs that includes career and postsecondary planning and operates after school, during the summer, or during school breaks.	The primary goals of this type of college and career planning program are to ensure that (a) students have the knowledge and information they need to identify their postsecondary options, (b) students have the information they need to make an informed decision from among those options, and (c) students are able to take the steps necessary to access their available options. Students may not have time or access to this type of planning during the regular school day. In addition, most high school students juggle responsibilities that include school attendance, homework, paid employment, extracurriculars and/or sports, and family responsibilities.[134] To accommodate student schedules, college and career planning should be offered in a variety of ways and at a variety of times. By involving TCATs and local industries in college and career planning, students will become aware of career and educational opportunities in their local communities, as well as the skills and credentials those opportunities require. To potentially reach more students, **Tennessee Board of Regents** (TBR), THEC, and the **Department of Labor and Workforce Development** should consider partnering to create local or regional programs that are offered during the summer break or after school.
58. **NEW:** Partner with nonprofit organizations to provide postsecondary transition services to students.	Many states and even some districts within Tennessee (e.g., Shelby County Schools) partner with nonprofit organizations such as Naviance[135] or College Advising Corps (CAC)[136] to support students' access to in-person or virtual postsecondary advisers. CAC advisors, for example, help students plan for college, fill out the Free Application for Federal Student Aid (FAFSA), secure fee waivers for the SAT and ACT, and complete other activities that supplement services the high school provides through a guidance office or other counselors. Naviance provides students a fully online platform to support their postsecondary planning. TDOE could vet postsecondary transition service providers and create an approved list, thus facilitating partnerships between schools, districts, and nonprofit organizations.
59. **NEW:** Strengthen the **individualized learning plan** (not to be confused with an individualized educational program, or IEP) process to include deliberate postsecondary and career planning aspects beginning no later than sixth grade.	An "Individual Learning Plan (ILP) is a student directed planning and monitoring tool that customizes learning opportunities throughout their secondary school experience, broadens their perspectives and supports attainment of goals."[137] While there is no rigorous, causal research documenting the impacts of ILPs,[138] some studies suggest that, when implemented effectively, ILPs can: ● "Foster higher levels of student motivation to persist in school."

	● Increase daily attendance and decrease disciplinary referrals. ● Improve “students’ academic self-efficacy.” ● Lead to more thoughtful decision-making about college and careers.[139] Tennessee is one of only a handful of states that does not widely use ILPs, although a personalized learning plan document is utilized by students participating in WBL experiences.[140] Tennessee should consider expanding its use of ILPs as a means for all students to receive deliberate postsecondary and career planning beginning no later than sixth grade.

Priority: Streamline postsecondary systems to facilitate lifelong learning.

To ensure that Tennessee's postsecondary systems enable learners to take advantage of education and training opportunities across their lifetimes, the Commission is making the following recommendations to the legislature:

Recommendation	Supporting evidence
Sub-priority: Enable seamless movement among institutions, regardless of type.	
60. Develop scalable, nonlinear credentialing pathways across TCAT, community college, and university pathways, including on- and off-ramps that are not fixed in a perceived order based on credential type.	THEC has invested considerable effort into building and offering smooth pathways among postsecondary institutions, regardless of type, to ensure there are no dead ends for students. **Articulation agreements** between any two or more institutions in Tennessee ensure students are not required by university, college, or TCAT procedure or regulation to pursue educational/training experiences that duplicate skills the individual already possesses.[141] The legislature must continue to scale these kinds of agreements to allow students to move in and out of programs and pursue different degree types over the course of their careers.
61. Create an automatic dual admissions option for students entering two-year institutions that are partnering with four-year institutions to facilitate seamless transfer and degree alignment.	Improving the transferability and articulation of college credit between the community college and university sectors, through programs like dual admissions that allow students entering a two-year program to be assured the credits they accrue in that program will transfer to participating four-year institutions if they choose to go on and complete a four-year degree, was a central focus of the **Complete College Tennessee Act (CCTA)** of 2010.[142] Currently, however, students have to apply to a participating institution to participate in dual admissions.[143] The legislature must take steps to make enrollment in dual admissions programs automatic to ensure all students can easily and seamlessly transfer between participating institutions and to make reverse transfer more universal for Tennessee students.
62. Conduct a full assessment and redesign of **Tennessee Transfer Pathways**, including clarification of which pathways transfer automatically between institutions without additional requirements or conditions (beyond earning a passing grade in coursework) and those that have additional requirements or conditions attached to transferability, and incentivize four-year institutions to partner with two-year institutions and TCATs in order to advance	Currently, the Tennessee Transfer Pathways program has aligned requirements across 60 majors, so a student completing all the requirements at the community college level earns an associate's degree within their major and is guaranteed that all the credits will count toward completion of a bachelor's degree in that same program of study.[144] Often these pathways are underutilized or inadvertently blocked by administrative processes.[145] The state must undertake a complete assessment of the Tennessee Transfer Pathways program to address challenges, clarify requirements, and ensure students have ready access to information about how to take advantage of them. The state must also take steps to incentivize four-year institutions to participate to create even more opportunities for Tennessee's students.

Transfer Pathways.	
63. Expand the reach of **TN Reconnect** to accommodate additional alternative pathways and to reduce the eligibility gap between HOPE/TN Promise aid for traditional students and programs for independent adult learners.	The Tennessee Reconnect Grant is a **last-dollar** grant available to eligible adults who want to pursue associate's degrees, technical degrees, or technical diplomas at Tennessee community colleges or technical colleges.[146] It can also be used at four-year institutions; however, in those instances, it will not be last dollar, meaning it will not cover all tuition and fees. Currently, students choosing to enroll at four-year institutions using the Reconnect Grant receive funding based on the average amount of tuition and fees at a community college. Expanding this program to make the TN Reconnect Grant a last-dollar grant at four-year institutions will support college degree completion for students who need additional financial assistance.
64. Expand **reverse articulation** to include alternative credential pathways.	The Reverse Transfer process allows transfer students at a four-year institution to combine four-year college credits with previously earned community college credits to receive an associate's degree.[147] Given the growing number of students engaging in alternative pathways to and through postsecondary education, the legislature must expand this program to minimize credit loss for students who have come to their postsecondary education through a variety of alternative pathways.
65. Incentivize students to take 15 credit hours per semester rather than 12 to improve on-time completion.	Postsecondary institutions across Tennessee consider students to be enrolled full-time if they are taking a minimum of 12 credit hours per semester.[148] The same is true for financial aid programs: Students must be enrolled in at least 12 credit hours per semester to be considered full-time students.[149] However, in the University of Tennessee system, a minimum of 120 credit hours is required for graduation with a bachelor's degree (although some programs require more).[150] This means full-time students taking the minimum number of credits required would need 10 semesters, or 5 years, to graduate with a bachelor's degree — a full year more than the standard on-time completion rate of four years. In order to incentivize students to complete college in four years, the legislature must shift the definition of "full time" to be 15 semester hours instead of 12 and ensure that definition is consistent across institutions and financial aid programs.
66. Pilot competency-based delivery models in higher education to identify existing models and scalable best practices.	CBE allows students to self-pace their education, moving through coursework quickly when they understand the material and more slowly when they need additional time to understand key competencies. Survey research suggests the use of CBE approaches in postsecondary is on the rise and may in particular be a good fit for adult learners and learners with prior credits.[151] CBE models may also have the potential to reduce the costs of postsecondary education for some students who are able to move through a CBE-based program more quickly.[152] In Tennessee, TCAT programs already use a competency-based approach.[153] The legislature ought to

	explore the role of CBE in Tennessee's postsecondary institutions more broadly. In addition, the legislature ought to learn from and report on successes and challenges from the TBR CBE certification course, which supports faculty interested in learning the basics of CBE course design.[154]
67. Conduct a full assessment of the state's financial aid portfolio for alignment with best practices, consistency across programs, and alignment with other state goals and initiatives.	During the 2019-20 academic year, Tennessee provided nearly $404 million in financial aid to 151,000 students through more than 20 programs.[155] While the state has many forward-thinking financial aid policies and programs in place, including the Tennessee HOPE Scholarship,[156] TN Promise,[157] and TN Reconnect,[158] there remain a number of opportunities to strengthen these programs to better support a broader and more diverse set of students and achieve the state's goals. The legislature must conduct a full assessment of the more than 20 state financial aid programs and make adjustments to ensure consistency across programs, eliminate disincentives and unintended consequences, align them with financial aid best practices,[159] and ensure they are in support of the goals set out in the state's master plan.[160]
Sub-priority: Support postsecondary students' nonacademic needs.	
68. Create a state grant program to incentivize multistakeholder, multifocused initiatives and policies designed to address students' non-tuition-based needs, such as textbook and inclusive access fees, nontuition fees (auxiliary costs), and other success-inhibiting costs.	Research shows that cost is the biggest reason students either do not enroll in or do not complete college, and tuition is just one piece of the overall cost.[161] At many schools, particularly community colleges, nonacademic expenses such as food, rent, and transportation are much higher than the cost of tuition. Much of the current nontuition supports that are available come from federal programs. For example, eligible students can access federal benefit programs such as **Supplemental Nutrition Assistance Program (SNAP)**, **Temporary Assistance for Needy Families (TANF)**, and early child care assistance. However, these programs are incredibly complicated and often involve navigating several levels of government (federal, state, and local/institutional), making it a confusing process for students. States can take steps to coordinate these programs and connect students to them.[162] For example, states have flexibility to designate career-oriented postsecondary programs as employment and training programs, which qualifies them under a student exemption for SNAP. Massachusetts, Oregon, and Pennsylvania all operate models where the SNAP agency has determined all community college programs qualify under the Perkins Act definition of "education designed to improve employability." This allows students enrolled at least half time to meet SNAP eligibility requirements. Tennessee's legislature must find ways to incentivize this kind of cross-agency coordination to facilitate students' access to existing programs that will help them to meet their non-tuition-based needs.
69. Create a pilot program at a set of community colleges to test the success of alternative	Many nontraditional students enter higher education with multiple roles and responsibilities that demand their time and attention (e.g., parents or caregivers, employees). Navigating

scheduling, such as block scheduling or year-round scheduling, in meeting the needs of **nontraditional students**.	institutional structures that are often designed for traditional, full-time students can be frustrating. Course availability and scheduling, for example, may not easily accommodate nontraditional students who are working full-time or are caring for children or elderly parents. Innovative approaches to course scheduling, such as block scheduling or year-round scheduling, can help accommodate nontraditional students' schedules, increase persistence, and accelerate degree completion.[163] The City University of New York's **ad** initiative, for example, is aimed at increasing graduation rates at community colleges and includes both scheduling options.[164] Students can schedule all of a semester's required courses in longer blocks over fewer days — including on weekends at one college — and year-round scheduling accelerates the pace of degree completion by offering courses in the summer and during the winter intersession. The Commission recommends the legislature create a similar pilot program in a small number of community colleges and evaluate its success at meeting nontraditional students' needs.
70. Develop a comprehensive advising/mentoring initiative not tied explicitly to subpopulations of financial aid recipients.	The role that mentors and counselors can play supporting students in accessing college is well documented.[165] However, mentoring and advising programs tend to be less readily available to students once they enroll in postsecondary institutions. In fact, just one in 10 postsecondary students reports ever meeting with their college advisor.[166] Yet, research also supports the notion that a high-quality advisor can help support students complete postsecondary programming.[167] Recipients of certain aid programs in Tennessee, such as TN Promise, receive mentoring services to support their postsecondary journeys.[168] This is not the case for recipients of all financial aid programs, nor is it the case for postsecondary students who are not part of a particular program. As Tennessee policymakers work toward reforms that support more students in accessing postsecondary opportunities, they must simultaneously ensure more students actually complete those degrees — and creating high-quality, comprehensive advising programs that are available to all students is an important step. Programs such as the Community Connections Mentoring Program at Georgia State, for example, which connects students with a mentor to help students engage in personal growth, leadership development, and career readiness,[169] can serve as models for Tennessee.
Sub-priority: Develop workforce-responsive degrees and outcomes measures.	
71. Task the THEC with developing a workforce-responsive degree program and academic program approval policies at postsecondary institutions.	Given the evolving nature of Tennessee's economy and the changing needs of Tennessee's businesses and industry, the state's postsecondary institutions must have the ability to create new degree programs that meet needs as they emerge. The legislature should task the THEC with creating programs and policies to support the rapid development of workforce-responsive programs.

72. Incentivize postsecondary institutions to track the number of degrees leading to jobs in a related field.	An important metric for helping students identify postsecondary programs that will lead to jobs is the number of graduates a given program produces who land jobs in a related field. The state's TCAT institutions already track licensure pass rates, program completion rates, and job placement rates for their programs.[170] The legislature must incentivize other types of postsecondary institutions to do the same in order to ensure students are able to make informed decisions about their choice of program and to ensure programs are aligned with the needs of the state's businesses and industries.
73. **NEW:** Recommend a review of TBR and state university system **hybrid programs** and courses to determine which institutions are offering them, evaluate their value to students and faculty, and identify how the state can best support hybrid learning.	Many of Tennessee's community colleges and four-year institutions are already offering hybrid courses and programs. Tennessee should review these programs to determine current hybrid program availability and the courses being offered, and assess where and how hybrid learning can be an asset to postsecondary learning within the state.
74. **NEW:** Assess previous partnerships between hybrid learning providers and University of Tennessee programs to evaluate how those hybrid programs or courses were received by students, and what lessons could be learned.	The University of Tennessee Knoxville[171] and Chattanooga[172] campuses have partnered with the EdX platform to offer hybrid courses in the past.[173] THEC, in partnership with Tennessee colleges and universities, should evaluate these partnerships and other similar programs to inform decisions about improving current options and creating future offerings.
75. **NEW:** Identify an established hybrid education online provider to develop a pilot program in partnership with one or more public Tennessee universities and/or colleges, ideally in a high-demand career area.	Hybrid courses are available in a wide range of subjects and programs, some more beneficial to students than others. To maximize their potential impact, Tennessee should consider developing a piloted partnership between an established online provider and one or more public universities or colleges in a high-demand career area (e.g., information technology, nursing, teaching).

Priority: Strengthen alignment across the k-12, postsecondary, and workforce systems.

To further strengthen alignment across the k-12, postsecondary, and workforce systems in Tennessee, the Commission is making the following recommendations to the legislature:

Recommendation	Supporting evidence
76. Improve access to and use of the existing **P20** Data System while protecting privacy.	Tennessee's longitudinal data system, **P20 Connect TN**, provides a 360-degree view of students and connects data across multiple systems, including k-12, higher education, and workforce development.[174] However, these data are not readily available to researchers or policymakers, making it incredibly difficult to use these data to identify and address pain points in the state's educational systems. The legislature must improve access to this system to help policymakers and other leaders access the kind of timely, accurate, and robust data necessary to create pathways through k-12 and postsecondary into industry, make adjustments to pathways as industry and economic needs shift, and better support students to successfully transition out of high school and into their next steps — whatever they may be.[175] Ideally this would include a public-facing dashboard with metrics summarizing key outcomes, kindergarten to career, such as third-grade reading; postsecondary enrollment, persistence, and attrition; completion of degrees and industry credentials; job placement; workforce needs; and skill gaps across sectors.
77. Align incentives across k-12 and postsecondary public funding systems to encourage systems to collaborate, prioritize flexibility for students, maximize student success, and minimize the cost and time to degrees and industry certificates employers are seeking, and remove disincentives for school districts to support students in accelerating high school completion.	Tennessee's current k-12 funding structure was largely designed around a traditional school model and a pre-K-through-12th-grade trajectory in which students attend school in-person at a single location each year over a 13-to-14-year span.[176] With student enrollment as a primary driver of funding, pre-K-through-12th-grade systems will continue to have a strong financial incentive to maximize enrollment and attendance, which creates positive incentives but could also be a disincentive to proactively support students in accessing options that may result in early completion. Tennessee currently does not have any outcomes-based funding structures within its pre-K-through-12th-grade funding formula, which is one lever some states have implemented to further incentivize outcomes aligned with state goals.[177] At the postsecondary level, formulas directing state funding for community colleges and universities are different, but both include outcomes-based metrics to incentivize institutions to focus on supporting student persistence and completion of credentials and degrees, with additional funding premiums based on the success of specific student populations and other outcomes.[178] The legislature must conduct a comprehensive review of both k-12 and postsecondary funding streams to ensure they are aligned both with one

	another and with broader state goals related to the workforce and economy.
78. Incentivize the expansion of high-quality mentoring programs systemwide to support efforts related to student well-being, high school progression, and success in postsecondary education.	The opportunity to have the support and focused interest from one or more mentors can lead to increased opportunity for success in school, work, and life.[179] Mentoring programs can happen in schools, in communities, and on the job. Research identifies a number of best practices for high-quality mentoring programs, including facilitating frequent interaction between the mentor and mentee and establishing structures to support longer-term relationships.[180] Implemented well, strong mentoring programs can result in improvements in students' academic achievement,[181] as well as decreases in truancy, dropout rates, and other behaviors such as drug or alcohol use and abuse.[182] The legislature ought to leverage high-quality mentoring programs to meet a variety of student needs, from social and emotional support to postsecondary access and completion.
79. **NEW:** Strongly encourage institutions to offer a semester-long or year-long "first-year experience" type course or program to support students as they transition to postsecondary and career.	First-year experience courses help students at two- and four-year colleges transition to a different learning environment, acquiring the "strong study skills and coping strategies" that postsecondary education demands.[183] Four studies of first-year experience courses found them "to have potentially positive effects on credit accumulation, degree attainment, and general academic achievement for freshman college students."[184] In Tennessee, the University of Tennessee-Southern[185] (in Pulaski) requires two credits in a "first-year experience" course designed to improve students' educational and lifelong learning experiences (covering core skill development in areas like studying, test-taking, time management, career choices, personal safety, health and wellness, and finances).[186] THEC and TBR should consider encouraging wider adoption of first-year experience courses at both two- and four-year institutions of higher education in support of student success.
80. **NEW:** Require THEC, TDOE, and the Department of Labor and Workforce Development to align work related to **non-degree credentials** to avoid duplicating efforts and to ensure youth and adults seeking quality non-degree credentials receive consistent information.	The Tennessee Higher Education Commission's task force on Defining Quality Credentials is currently working to establish a definition for quality credentials aligned with the National Skills Coalition model.[187] The overarching goal of the 14-member task force is to "ensure individuals are investing in credentials which will provide workforce value and create a repository for tracking purposes."[188] In 2019-20, TDOE worked with several state agencies and other stakeholders to develop a system that provided secondary and postsecondary students with a list of "department-promoted" industry certifications.[189] These two agencies, along with the Department of Labor and Workforce Development, need to align their efforts going forward in the interest of efficiency, consistency of information provided, and cost.

81. **NEW:** Ensure that the agencies tasked with tracking non-degree credentials are collecting and publishing adequate data, including industry trends, outcomes, and individual demographics.	Assessing the quality of non-degree credentials is a critical equity issue as "non-degree credentials have the potential to facilitate social mobility by acting as clear markers of competency that should be rewarded" economically or academically. On the other hand, "low-quality non-degree credentials have the potential to perpetuate or even worsen inequality" if certain groups of students, particularly those historically underserved in higher education, do not have access to information on credential quality.[190] Tennessee agencies that track non-degree credentials should consider collecting and publishing data that includes: ● Industry trends at the local, state, national, and global levels so that statewide repositories of quality, non-degree credentials include clear and updated information on the market value of credentials. ● Employment, wage increases, and educational attainment outcomes for individuals who earn non-degree credentials. ● Individual demographics to ensure that the benefits of non-degree credentials are distributed equally across groups of individuals.
82. **NEW:** Ensure the agencies tasked with overseeing non-degree credentials develop partnerships with organizations outside of higher education that offer non-degree credentials to align those credentials with credentials recognized within postsecondary systems.	Research suggests that non-degree credentials within the same field of study can produce a different return on investment for students. A literature scan conducted by the Non-Degree Credentials Research Network found that some non-degree credentials are "instrumental to advancement" in some fields and have virtually no market value in others. THEC and TBR should work together to identify the non-degree credentials recognized by their systems and partner with organizations outside of higher education to align on the relative "value" of non-degree credentials in different areas of study and career fields.

Priority: Incentivize locally led innovation.

To foster local innovation in Tennessee, the Commission is making the following recommendation to the legislature:

Recommendation	Supporting evidence
83. Create an innovation hub representing a partnership of education and industry organizations from the public, private, and nonprofit sectors. ● **NEW:** This independent innovation hub will have authority and accountability, and will interact with TDOE, THEC, and the Department of Labor and Workforce Development to focus on educational innovation across the kindergarten-to-career continuum. ● **NEW:** This work will include establishing grant opportunities to encourage entrepreneurs to innovate in support of student success (e.g., postsecondary transitions, early literacy, and math).	In order to create a system focused on continuous improvement and finding the best ways to educate students, the legislature must invest in innovation. Setting aside dollars in an innovation "hub" to support locally led innovation is a powerful way for the state to do so. The hub could be designed in any number of ways. Legislators could create a hub to support innovations aimed at solving a particular problem — addressing students' well-being or recruiting and retaining high-quality teachers, for example. Alternatively, the focus of the hub could be much broader and allow local educators to apply for funds to implement a breadth of innovations in their schools and classrooms. Legislators could also consider partnering with existing industry accelerators, such as the Knoxville Entrepreneur Center,[191] Launch Tennessee,[192] Techstars,[193] or ZeroTo510,[194] to design an education innovation accelerator fund. Regardless of the design of the hub, it's imperative that legislators design it with some willingness to take and tolerate risk. After all, innovations are, by definition, untested and unproven. It is also essential for the legislature to create an evaluation plan for innovations that receive funding, guidelines for discontinuing programs that fail to demonstrate progress toward goals, and a process to scale those innovations that show signs of success.[195]

2022 Tennessee legislation passed with aligned recommendation(s)

Bill Number	Bill Summary
SB 2181 (Pub. Ch. 975)	TDOE must annually report data on reading instruction training provided in Educator Preparation Programs for k-3 teachers. ***Addresses recommendation #2***
SB 2017 (Pub. Ch. 760)	Permits state colleges or universities to establish a teacher training program (pre-K through 12th) in any county with any local board of education. ***Addresses recommendation #18***
HB 1964 (Pub. Ch. 936)	Requires at least annual LEA virtual learning drills; requires EPPs to provide instruction on "effective strategies for virtual instruction"; requires TDOE to review teacher training programs. ***Addresses recommendations #32 and #34***
SB 2531 (Pub. Ch. 794)	Develop and implement a program to permit students to be dual enrolled in a two-year and four-year institution no later than fall 2024. ***Addresses recommendation #49***
SB 2370 (Pub. Ch. 884)	Expand TCAT access by 2023-24; encourages TBR to create a TCAT for each county. ***Addresses recommendation #50***
HB 2300 (Pub. Ch. 943)	High school students graduating early are to be counted as enrolled (LEA) for accounting purposes through the school year's conclusion. ***Addresses recommendation #49***

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