Primary and Secondary Education in Azerbaijan
Policy Considerations for the 21st Century

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Introduction and Summary of Policy Options

This report grew out of the “Education Week Conference” held in Baku, Azerbaijan, in June 2017, which brought together Azerbaijani educational stakeholders and faculty and doctoral students from the George Washington University (GW) to discuss ways to improve the Azerbaijani education system. During their time in Azerbaijan, the GW participants also visited public and private schools in Baku and met with officials from the Ministry of Education, officials from the Baku City Education Department, and school-level staff to discuss the current state of education in Azerbaijan.

This report provides the Azerbaijan Ministry of Education with a set of policy options to consider as it explores ways to make further advancements in the nation’s education system. The options laid out in this report were informed by the conference discussions, other meetings and visits, and reviews of relevant research.

We begin by briefly summarizing the context of the Azerbaijani educational system, the history of reform in Azerbaijan, and current educational needs in the country. Then we present policy options in three educational domains that could benefit from further reform: teacher quality, access, and education for economic development. These options are summarized below.

Teacher Quality

Attention to teacher quality begins with the initial training of teachers and extends well into teachers’ careers. Policy options to facilitate the development and growth of teachers could include the following:

- Improve preservice teacher preparation;
- Implement an induction program to help mentor new teachers in their first years of teaching;
- Continue to build the capacity of veteran teachers through high-quality ongoing professional development and evaluation; and
- Develop the capacity of principals to be instructional leaders.

Access

Access refers to the means by which educational institutions provide opportunity for all students, regardless of background and situation, to receive a high-quality education. Policy options to facilitate equal access could include the following:

- Increase the number of hours students spend in the classroom;
- Establish a compulsory K-12 education system; and

options to facilitate further reform include:

- Improve preservice teacher preparation;
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- Develop the capacity of principals to be instructional leaders.
• Equalize access to education for all students through choice-based enrollment policies.

Economic Development

Building the type of workforce needed for Azerbaijan to transition to a knowledge-based economy involves ensuring that students acquire the skills and competencies needed to succeed in a growing global economy. Policy options to develop human capital for a growing economy could include the following:

• Establish a career and technical education graduation requirement for students;
• Create tax incentives for employer/business participation in the primary and secondary education system; and
• Develop an apprenticeship system that enables students to acquire valuable skills, credentials, and work experience.

Each set of options is explored in a separate section of the report. For each section, we have developed tables summarizing key information about the options, including their potential benefits, unintended consequences and potential impediments that could be encountered during implementation, and examples of the experiences of other countries that have implemented similar policies. The tables also include citations of relevant research. This information is intended to help the Ministry of Education craft future policy that increases the potential for beneficial results while diminishing the possible negative effects.

AUTHORS AND CONTRIBUTORS

Authors

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CONTEXT

The education system of the Republic of Azerbaijan, a nation of more than 9.7 million people, covers four stages of schooling: pre-primary (ages 3 to 5), primary (ages 6 to 9), secondary (ages 10 to 16), and tertiary (ages 11 to 21). Schooling is compulsory for students ages 6 to 15 (Ministry of Education of Azerbaijan, 2017; Ness & Lin, 2013; World Data on Education, 2011).

Azerbaijan regained independence in 1991 after the fall of the Soviet Union, and faced the challenge of modernizing an education system inherited from the former Soviet Union. The government has taken steps to improve the education system, such as increasing literacy and investing in infrastructure, but is constrained by low public spending (World Bank Group, 2015). Although Azerbaijan significantly increased total spending on public education from AZN 294 million ($175 million USD) in 2004 to AZN 1.5 billion ($890 million USD) in 2013, total government expenditures for education as a share of Azerbaijan’s gross domestic product have decreased from 3.4% in 2004 to 2.7% in 2014 (World Bank Group, 2015).

The State Strategy on the Development of Education in the Republic of Azerbaijan called for large-scale reforms to curriculum, teacher skills and pedagogy, infrastructure, and other areas (Ministry of Education, 2013). During the Education Week Conference in 2017, Azerbaijani education leaders noted that although the government had spent a significant amount of money toward curriculum reform, the curriculum was not yet fully aligned with the knowledge and competencies students need to acquire to compete in the modern global economy. Additionally, teachers have limited capacity to adjust their instruction (World Bank Group, 2015).

The 2013 State Strategy was also designed with the goal of better equipping students for a rapidly changing labor market. The strategy includes the following aims:

- Delegate authority to education institutions to actively engage parents, students, and local communities and improve school management;
- Increase compulsory attendance to 12 years of general education;
- Introduce innovative instructional approaches to replace the previous Soviet “memorization” mode of instruction and integrate new competency-based strategies into the system;
- Increase the number of programs for gifted and talented students and develop individualized programs for this group;

1 In 2017 US dollars
• Modernize the infrastructure of schools and universities and equip students with updated resources and materials;

• Integrate modern technology and electronic tools into teaching and learning to ensure an active and interactive learning environment; and

• Implement study abroad programs to strengthen human capital and expose students to different systems and cultures.

Teacher preparation and professional development have also been the targets of reform for the past several years. Conference participants noted that the Azerbaijani system of teacher education continues to produce teachers who use rote methods of instruction instead of engaging in continual improvement and using feedback to better align instruction with students’ needs. During the conference, education leaders discussed the government’s efforts to decentralize teacher education as a means of improving preparation and professional development, but this has been a challenge due to financial constraints and a lack of expertise in local educational institutions.

Azerbaijan has also emphasized universal access to high-quality education. According to UNESCO net enrollment data from 2015, 94.14% of primary school-aged children are enrolled in primary school while 18.75% of children ages 3-5 are enrolled in pre-primary education (UNESCO, n.d.). (Data on secondary school enrollments are not available.)

Large-scale initiatives to increase the school completion rate at the primary level have led to gains in this area, and the percentage of students who repeat a primary grade is low. Nearly all primary students (99%) make the transition to secondary education (UNESCO, 2015). However, the point was made at the conference that participation in education drops in the secondary grades, and this is one of Azerbaijan’s greatest educational challenges. These dropouts enter the economy without having received an adequate education. Further, low-quality teaching in the secondary grades creates problems for students trying to enter postsecondary institutions (World Bank Group, 2015).


Framework for Considering Policy Options

The policy options presented in this report are intended to inform Azerbaijan’s educational decision-makers about possible courses of action based on research evidence and expert input. Our basic assumption is that any policy may lead to unanticipated effects, both positive and negative. As decision-makers in Azerbaijan consider various options for advancing their education sector, it is therefore important to consider not only the potential positive outcomes of a particular option, but also the possible neutral and negative consequences of each option.

Throughout the Education Week Conference and during our additional meetings with stakeholders and school visits, three domains of education emerged as prominent themes of the national policy discourse: teacher quality, access, and education for economic development. To develop a set of policy options, we conducted an extensive review of the research literature in these three domains. Based on evidence from this review, we have developed tables that contain the following information:

- **Column 1** lists the policy options, some of which are broken down into sub-actions or alternatives that can be undertaken by the Ministry of Education to meet the larger policy goal. Parts of these policy options may already have been explored by the Ministry or may be in place to some extent.

- **Column 2** shows the potential benefits of each policy—in other words, the positive results that evidence has shown might result from undertaking those actions.

- **Column 3** lists the unintended negative consequences and/or potential impediments that either have occurred in certain locations where the policy has been implemented or could occur. These considerations are included to help policy-makers anticipate possible roadblocks and think through ways to mitigate them.

- **Column 4** identifies examples of various ways in which these policies have been implemented in other countries. By looking more closely at this evidence, policy-makers can develop greater understanding of how various policies might apply in Azerbaijan.

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Teacher Quality

Teacher quality is widely accepted as the most important school-based factor influencing student achievement (Goldhaber, 2016). One of the strategic directions put forth by the aforementioned 2013 State Strategy focuses on the role of teachers in facilitating student learning “through innovative learning methods and technologies tailored to individual learner characteristics” (Strategic Directions section, #2). Achieving this goal will involve efforts to help teachers effectively impart knowledge and encourage creative thinking through a variety of teaching strategies for a diverse student body.

Teacher quality is shaped during initial teacher preparation and then honed throughout a teacher’s experience in the classroom and through continuing professional development. The avenues for such training vary. A key rationale for focusing on teacher quality is evidence that creating a culture of continual professional learning and reflective practice (Matthew & Jessel, 1998) along the entire career path allows opportunities for growth and holds promise for increasing the number of highly qualified teachers in the nation’s classrooms.

Table 1 outlines several policy options for developing teacher quality, starting before a teacher first enters the classroom and continuing throughout a teacher’s career. The following options are drawn from our examination of research on initial teacher preparation, new teacher induction, professional learning communities, and teacher evaluation:

1. Improve preservice teacher preparation;
2. Implement an induction program to help mentor new teachers in their first years of teaching;
3. Continue to build the capacity of veteran teachers through high-quality ongoing professional development and evaluation; and
4. Develop the capacity of principals to be instructional leaders.

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Developing Human Capital


### International Experiences

#### Potential Benefits
- **Difficulties recruiting high-quality mentor teachers** (Fordham Institute, 2012)
- Requires release time and support for mentor teachers (Kent, Green, & Feldman, 2012)
- **Mentor teachers have other responsibilities** (Ingersoll, Merrill, & May, 2004)
- **Teacher characteristics** (Smith et al., n.d.)

#### Impediments
- **Difficulty recruiting high-quality mentor teachers** (Fordham Institute, 2012)
- The implementation of action-based** international induction programs** (Helterbran, 2008)
- Mentoring increases job satisfaction for the veteran teacher (Watlington et al., 2010).

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### Kentucky Department of Education. (2015). Why teachers support the common core (Kentucky core academic standards). Frankfort, KY: Kentucky Department of Education.


Access


<table>
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<tr>
<th><strong>Policy Options</strong></th>
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Access

Improving access is shorthand for the commitment by education systems, institutions, and policies to facilitate equal and equitable participation in high-quality schooling for all students (Darragh, 2007). Access covers many components of education policy, including structural, political, and curricular reform. Policies that address access may focus on providing additional services to meet the needs of various student populations (e.g., instituting a special education program) or removing obstacles to high-quality learning (e.g., reforming teacher preparation programs to ensure a high-quality teacher in each classroom).

The 2013 State Strategy includes several goals aimed at providing high-quality education for all students, from upgrading infrastructure to improving the quality of instruction and curriculum for disadvantaged student populations.

Improving access typically focuses on two areas. The first, achieving universal access, involves ensuring that all students receive a high-quality education regardless of their socioeconomic status, race, gender, geographic location, physical abilities, and other key characteristics. The second, ensuring equitable access, goes a step further by providing services and resources that all students need (Darragh, 2007).

The policy options in Table 2 focus on structural reforms that can be made to the existing Azerbaijani education system to ensure that all Azerbaijani students receive a high-quality education. A review of the research has shown that increasing time in the education system for students and equalizing the quality of schools are key components of improving access. With those two overarching themes in mind, we developed three evidence-based policy options:

1. Increase the number of hours students spend in the classroom;
2. Establish a compulsory K-12 education system;
3. Equalize access to high-quality education for all students through choice-based enrollment policies.

Our analysis of access policies in the research literature, as outlined in Table 2, suggests that the benefits of each of these policy options can outweigh the potential unintended consequences and impediments.

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2. While compulsory education in Azerbaijan does not currently cover grades K-12, the Ministry of Education considers this to be a priority for educational improvement. Two key goals of the Ministry’s State Strategy (2013) are instituting compulsory kindergarten, called pre-school, and transitioning to 12 years of education.
Table 2. Policy Options and Analysis to Promote Access

<table>
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<tbody>
<tr>
<td>1. Increase the number of hours students spend in the classroom each year</td>
<td>• Increase academic achievement, particularly for minority and low-income students (Allen, 2010).</td>
<td>• Requires additional expenditures for teacher salaries and operational expenses, which may raise concerns about the fiscal impact on schools (Harterbran, 2008).</td>
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<td>2. Extend the number of days students spend in school each year</td>
<td>• Increased instructional time is associated with improved student achievement, particularly for low-income students (Patall, Cooper, &amp; Allen, 2010).</td>
<td>• May face opposition from families who are concerned about longer school days or reduced free time (Kidron et al., 2014).</td>
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<tr>
<td>3. Decrease the amount of time students spend reviewing prior academic material at the beginning of the school year</td>
<td>• Permits a more well-rounded education by facilitating the teaching of non-core subjects, such as music, arts, and robotics (Kidron et al., 2014).</td>
<td>• Provides additional flexibility in scheduling teacher planning time (Harterbran, 2008).</td>
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</table>

References

**Background/Context**


**Teacher Quality**


Conclusions

Throughout our experiences at the Education Week Conference and during additional visits and meetings with stakeholders, three domains of education emerged as themes of the national policy discourse: teacher quality, access, and education for economic development. The significance of these domains, and their potential to benefit from further reform, was reinforced by our study of the context of the Azerbaijani education system and the previous policy reforms initiated by the Ministry of Education, as documented in the 2013 State Strategy.

This paper summarizes our analysis of the research literature in these domains and lays out potential policy options for reform. We have also outlined potential benefits that could be weighed against possible roadblocks or unintended consequences arising during implementation. The experiences of other countries that have adopted similar policies provide useful information for understanding how these reforms work in different circumstances with potential lessons for the Azerbaijani context.

The three domains discussed in this paper are at times intertwined: successful implementation of certain policies in one domain may affect—and be affected by—policies in the other domains. Additionally, these policy options are not exhaustive. There are many variations on these options, as well as alternative strategies, that could contribute to continuous educational improvement. The policy options in this paper are meant as a starting point for what we hope will be continued and in-depth deliberation, and are presented in a frame that we believe can be useful to decision makers and stakeholders involved in Azerbaijan’s ongoing national dialogue on education.
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| Establish a voucher system that provides funding for students to attend private schools. (Alliance for Public Charter Schools, 2017) | • Allows disadvantaged students to enroll in typically higher-quality private schools, thereby improving and equalizing their educational opportunities (Cohodes & Dynarski, 2016)  
• Offsets the costs of attending private schools by providing vouchers to students that cover some or all of their tuition costs (Figlio & Karbownik, 2016)  
• Diversifies the student population by including both high- and low-achieving students in the private school population (Berends & Waddington, 2016) | • Can create problems if students, especially those in rural areas, must travel far distances to attend a school in which they were accepted and are able to enroll (Ryan & Hill, 2017).  
• Limits enrollment to the beginning of each school year and can make mid-year transfers more difficult if schools do not have the capacity or resources to enroll transfer students (Vogell & Fresques, 2017). |  

Voucher System:  
• Some U.S. states have implemented voucher systems that allow the money that would have been spent on a student's public education to be used toward tuition fees at a private institution. This system enables students who could not otherwise afford private school tuition to enroll in high-quality private schools at a subsidized cost (Figlio & Karbownik, 2016). |
Table 3 focuses on three policy options for developing human capital for a knowledge-based economy:

1. Establish a career and technical education (CTE) graduation requirement for students;
2. Create tax incentives for employer/business participation in the primary and secondary education system;
3. Develop an apprenticeship system that enables students to acquire valuable skills, credentials, and work experience.

**EDUCATION FOR ECONOMIC DEVELOPMENT**

Azerbaijan’s future economic prosperity hinges, to a large extent, on becoming economically diverse and responding to economic globalization, rapid technical change, and the fast pace of innovation (Asian Development Bank, 2007). The 2013 State Strategy recognizes the need to shift from a traditional resourced-based economy to a knowledge-based economy to solidify the nation’s place in the new global economy.

Because formal education and on-the-job training play a critical role in a knowledge-based economy, Azerbaijan should next consider how to fine-tune its education system to prepare the current and future workforce for the demands of international labor markets (Robertson, 2005). Poor alignment between the skills and competencies possessed by workers and those required for jobs can have significant economic repercussions at both the micro and macroeconomic levels (Global Agenda Council on Employment, 2014).

**Policy Options**

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<td>1. Establish an apprenticeship</td>
<td>Helps students acquire practical skills and work experience, all of which are strong predictors of early labor market success (Ryan, 2012, Steedman, 2010).</td>
<td>Limited portability of skills and knowledge (Hoffman &amp; Schwartz, 2015).</td>
<td>Switzerland, small and large companies, banks, hospitals, welfare agencies, banks, hospitals, child care centers host 16- to 19-year-old apprentices who serve six months to two years in education in this case and are attractive because they provide an alternative to direct government spending.</td>
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<td>Provides participants with a wage-advantage over students in the general education track during early labor market years (Hanushek et al., 2017).</td>
<td>May increase labor market turnover (Hebert, 2016).</td>
<td>In Germany and Austria, apprentices spend three to four days a week at a vocational school, where apprentices receive a theoretical grounding in their future job (Ryan, 2012, Steedman, 2010).</td>
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<td>Students spend three days a week at a vocational school, where apprentices receive a theoretical grounding in their future job (Ryan, 2012; Steedman, 2010).</td>
<td>Could perpetuate education and training differences in terms of the pay, duration, time spent, and the prestige and future advancement (Hanushek et al., 2017).</td>
<td>After completing their apprenticeship, about 30% of Swiss companies and reduces turnover, which in turn, diminishes with age (Hanushek et al., 2017).</td>
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1. It is worth noting that the career and technical education policy option is different from Azerbaijan’s existing vocational education and training system. In Azerbaijan, students may choose to exit the general education system after the 9th year and enroll in vocational institutions to learn skills pertinent to a specific occupation or a group of similar occupations. In contrast, career and technical education integrates workplace competencies and skills into the general education system’s curricula.

2. Although the primary goal of a tax system is to raise revenue for the government, it can also be used to influence policy. Tax incentives are “concessions in tax codes that mean a conscious loss of government budgetary revenue” (CEDEFOP, 2009, pg. 9). Governments utilize tax incentives to encourage particular types of behavior (investment in education in this case) and are attractive because they provide an alternative to direct government spending.
Table 3. Policy Options and Analysis to Develop a Workforce for a Knowledge-based Economy

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<thead>
<tr>
<th>Policy Options</th>
<th>Potential Benefits</th>
<th>Unintended Consequences and Potential Impediments</th>
<th>International Experiences</th>
</tr>
</thead>
<tbody>
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<td><strong>1. Establish an optional career and technical education graduation requirement for students</strong></td>
<td>• Puts a strong focus on students creating individual plans and thinking about their post-high school plans (RAND, 2015)</td>
<td>• May force students to choose between CTE and other courses, such as foreign language or arts (NASDCTEO, 2015)</td>
<td>• Nearly every state in the U.S. requires students to complete a set of “directed” electives in areas such as arts, foreign language, and/or CTE courses, as well as “open” electives, which students can fill with any courses of their choice. However, some states also specify how those directed electives should be structured, based on students’ interest and career plans. For instance, Virginia requires all students earning a standard diploma to earn an industry-recognized credential (NASDCTEO, 2015).</td>
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<td>• Gives students the opportunity to take a full range of courses that will prepare them for both college and careers (Brand, Valent, &amp; Browning, 2013)</td>
<td>• Could lead to oversaturation of specific skills and future professions (DeVol, 2016)</td>
<td>• Several U.S. states, such as Arkansas, Delaware, Kentucky, and West Virginia, require a certain number of electives, which are directed to be “career focused” or “aligned with students’ post-high school plans.” Students may choose to satisfy these electives with CTE, academic, or other elective courses. It is fairly common for these electives to be mentioned in conjunction with individual career/academic plans or the equivalent within the graduation requirement policy (NASDCTEO, 2015).</td>
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<td>• Greater exposure to CTE increases the chances that students will graduate from high school, enroll in a two-year college, hold a job, and earn higher wages (Dougherty, 2016)</td>
<td>• Requires substantial investment (e.g. equipment, facilities, teachers) up front (Gribb, 1995)</td>
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<td>• Students taking more CTE classes are as likely to pursue a four-year degree as their peers (Dougherty, 2016)</td>
<td>• Gains in youth employment through CTE may be offset by less adaptability and diminished employment later in life (Hanushek et al., 2017)</td>
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<td>• Offering students CTE courses during upper-secondary school tends to increase school attendance for 15- to 19-year-olds and improve labor-market outcomes of high school graduates regardless of whether they enter and complete post-secondary</td>
<td>• Requires broadening the curriculum (Romperka, 2002)</td>
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<td>• Students may need school-based guidance counselors, which are not currently provided in Azerbaijan’s education system, to help them make well-informed decisions about careers (Brand, Valent, &amp; Browning, 2013)</td>
<td>• Hinges on teachers being able to teach new skills (DeVol, 2016)</td>
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<td>• Offering students CTE courses during upper-secondary school tends to increase school attendance for 15- to 19-year-olds and improve labor-market outcomes of high school graduates regardless of whether they enter and complete post-secondary</td>
<td>• Must overcome the negative stigma attached to CTE (Gordon, 2014)</td>
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<td>• Forcing the business community to have “skin in the game”</td>
<td>• Students may gain little from school-based guidance counselors, which are not currently provided in Azerbaijan’s education system, to help them make well-informed decisions about careers (Brand, Valent, &amp; Browning, 2013)</td>
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<td>• Efficiently reduces aggregate underinvestment in education and training, both by businesses and individuals (CEDEFOP, 2009)</td>
<td>• Increases administrative costs and reduces public revenues (Blank &amp; Stoney, 2011)</td>
<td>• The U.S. state of California taps into its lucrative film industry and offers tax credits to those who offer work-based learning opportunities to students (NASDCTEO, 2014).</td>
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<td>• Can be appreciated by employers in some countries (e.g. Austria and the Netherlands) (CEDEFOP, 2009)</td>
<td>• Can lead to high deadweight effects (Caliendo &amp; Schmidt, 2016). Tax incentives can turn into a deadweight loss because they prevent people from engaging in transactions that they would have otherwise made.</td>
<td>• In Austria, several tax incentives are aimed at businesses and individuals. Training expenses are treated as income-related expenses that reduce taxable income for both businesses and individuals. There is an extra (120%) tax allowance for companies for training expenses; those that do not make enough profit to benefit from this allowance can alternatively claim atax credit of 6% of the actual expenses. Also, the Austrian taxation system has an apprenticeship tax allowance and an apprenticeship tax credit to promote company participation in apprenticeship education (CEDEFOP, 2009).</td>
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<td>• Participates in the high-skilled labor market and is more likely to work in multinational companies (Brand, Valent, &amp; Browning, 2013)</td>
<td>• Could force students to choose between CTE and other courses, such as foreign language or arts (NASDCTEO, 2015)</td>
<td>• Since 2004, Florida has applied a simple 1% flat rate for value-added, income and corporate taxes, and has excluded almost all tax exemptions (CEDEFOP, 2009).</td>
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<td><strong>2. Create tax incentives (e.g. allowances, exemptions, credits, relief, and deferrals) for employer participation in education</strong></td>
<td>• Forces the business community to have “skin in the game”</td>
<td>• Can be difficult to get the business community to support a tax</td>
<td>• France offers employer tax credits for</td>
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<td>• Efficiently reduces aggregate underinvestment in education and training, both by businesses and individuals (CEDEFOP, 2009)</td>
<td>• Incentives may not be the right levers to spur involvement (Blank, &amp; Stoney, 2011)</td>
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<td>• Can be appreciated by employers in some countries (e.g. Austria and the Netherlands) (CEDEFOP, 2009)</td>
<td>• May attract employers for the wrong reasons (Bremer &amp; Medear, 1995)</td>
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<td>• May require constant adjustment to find sweet spot (Blank &amp; Stoney, 2011)</td>
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<td>• Requires the cooperation and coordination of various ministries (education, tax, and finance) that</td>
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