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DIRECTORATE FOR EDUCATION AND SKILLS
EDUCATION POLICY COMMITTEE

Business at OECD (BIAC) Position Paper for the *proposed* International Symposium on Employability and the Learner Profile

(ISELP)

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Business at OECD (BIAC) Position Paper
for the _proposed_
International Symposium on Employability and the Learner Profile (ISELP)

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This paper outlines the ways in which school curricula are increasingly misaligned with the needs of life and employability, and the drivers that hold this misalignment frozen in place. Finally, it introduces possibilities for change. The graphic below introduces the key themes of the paper.
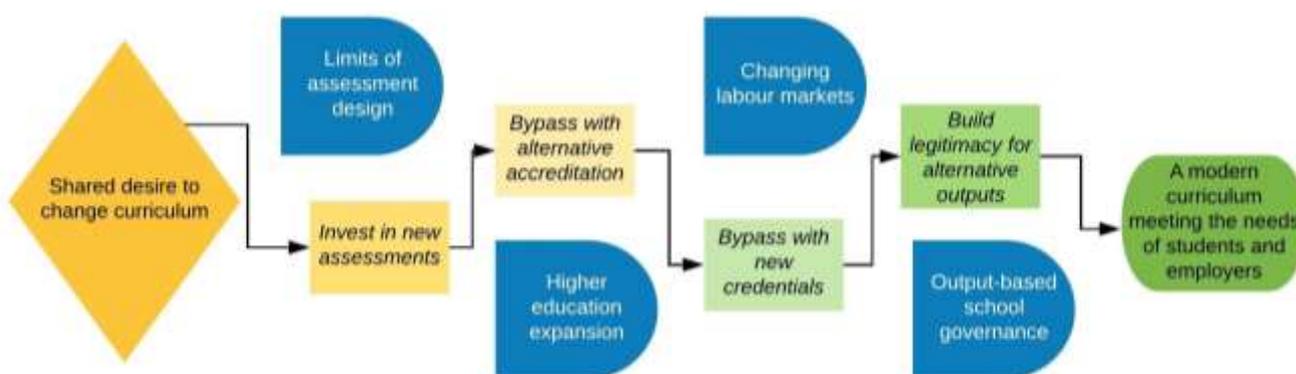

The Issues:

Secondary education is a key time for young people to develop some of the knowledge, skills and character that will serve them in their current and later life. We cannot predict exactly what that will be, but we can learn something from listening to those who are going through school now and those who are shaping their future workplaces. When asked about their experience of schools, the majority of young people report anxiety over tests, grades and school work. This is particularly difficult at a time of tumultuous change in their lives through adolescence, and sometimes external aggravating factors (family, locality, etc.). Over half of young people across the OECD, ranging from just over a third in Switzerland to four-fifths in Brazil, report feelings "very anxious" about school tests, even when they are well prepared[1]. In comparison, less than one fifth of students report being bullied. And yet, all this worry about schoolwork is not paying off, at least in terms of learning that students can readily demonstrate: in many countries, students' scores in international assessments have flatlined in recent years. Something is not

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[1] OECD (2017) PISA 2015 Results (Volume III): Students' Well-Being. Paris: OECD Publishing, p. 85

working. Employers agree: they do not believe that student effort is oriented in the right direction and in a recent survey *place school curricula reform as their top priority for education policy*[2], and also *consider skills*[3] *and character*[4] *to be of essential importance as an intrinsic part of the curriculum.*
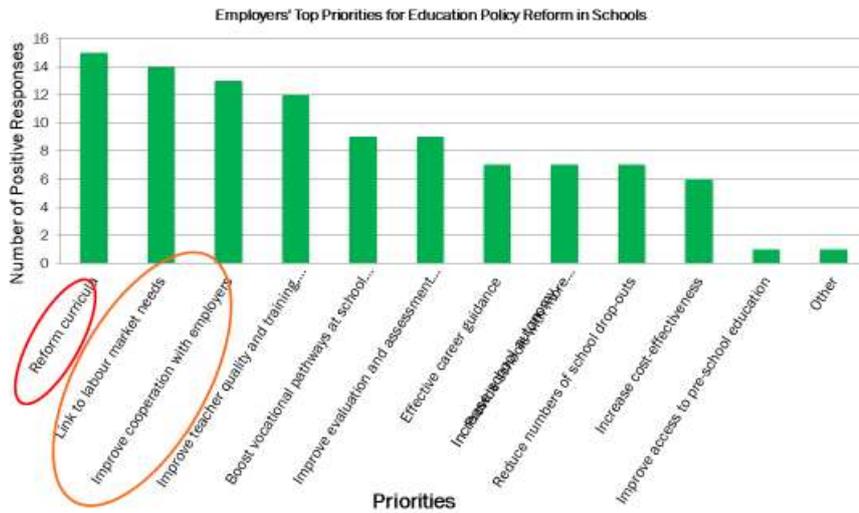
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[2] BIAC (2013) BIAC Education Committee Survey Synthesis Report. http://biac.org/wp-content/uploads/2014/05/130605_BIAC_Education_Survey_PREMIUM.pdf

[3] As do a vast majority of jurisdictions: http://skills.brookings.edu/

[4] http://biac.org/wp-content/uploads/2015/06/15-06-Synthesis-BIAC-Character-Survey1.pdf

BIAC Survey 2015: Character Qualities for the Workplace

Employers consider the following character qualities as being of "very high" importance to the workplace (in descending order):

1. Ethics
2. Leadership
3.= Resilience = Curiosity
4. Mindfulness
5. Courage

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The rise in anxiety of young people in school and the dissatisfaction of employers could have a common remedy: a reworking of the curriculum to provide more opportunities for connection, the development of deep interests, and engagement with real-world issues, and skills and character development. Curriculum must adapt and modernize in line with changes in daily life and work as well as new insights into how people learn. As things stand, our school curricula are not adapting anywhere near fast enough to address life challenges posed by humanity to itself (global warming, inequities, intolerance, pollution, partisanship, etc.). This situation will be made even more acute by technologies such as Artificial Intelligence, threatening to render many unemployable[5] and disenfranchised, with all the likely social unrest consequences.

The nature of the misalignment takes two forms. First, the growth of new bodies of knowledge of high relevance to life and work is placing a strain on existing canons. For example, employers reflect a strong desire for an enhanced focus on Science, Technology, Engineering and Mathematics (STEM) subjects, but too often students do not get exposed to bioengineering as part of biology, or technology and engineering at large[6], which would be relevant for contemporary employability[7].

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[5] McKinsey Global Institute:
https://public.tableau.com/profile/mckinsey.analytics#!/vizhome/AutomationBySector/WhereMachinesCanReplaceHumans and
https://public.tableau.com/profile/mckinsey.analytics#!/vizhome/AutomationandUSjobs/USAutomationlandscape

[6] "STEM" is a misnomer: very little, if any, T&E is taught in schools. The acronym should be M&S in reality.

[7] Council, N. A. of E. and N. R. (2014). *STEM Integration in K-12 Education: Status, Prospects, and an Agenda for Research*. https://doi.org/10.17226/18612

BIAC Education Survey 2013
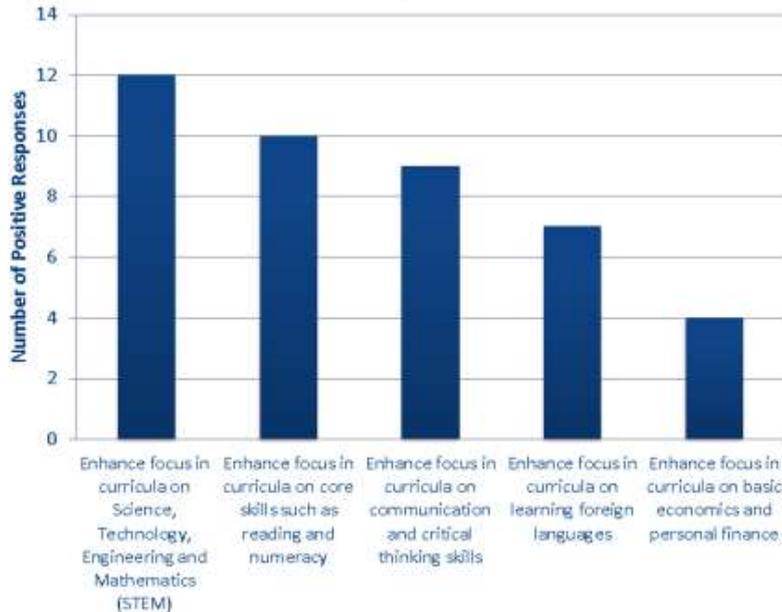
Secondly, the shape of current curricula constrains the tasks that students can work on in schools and therefore the skills and character they develop. When students are spending the majority of their time working on individual assignments that are forgotten week-to-week, they are not learning what it means to exercise their curiosity, courage or leadership; and are not having opportunities to improve their communication or collaboration. School practices are out of step with new ways of working and relating to each other, such that the dilemmas young people[8] already grapple with in daily life exist only at the edge of school concerns.

This problem does not start and end with school curricula. Many nations, states or individual schools are trying hard to expand their curricula in interesting directions: an increasing number of countries are trying to incorporate some form of "key competencies"[9] and are implementing policies to support new curricular goals[10]. BIAC's survey[11] shows that *employers around the world unequivocally support the development of character* (aka "attitudes and values", or social/emotional learning) as intrinsic to the needs for employability. This is confirmed by mapping the US's O*NET and Bureau of Labor Statistics databases to the same set of skills

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[8] For viral videos expressing young people's eloquent anger, please watch: "Don't stay in school" https://www.youtube.com/watch?v=8xe6nLVXEC0 and "I just sued the school system" https://www.youtube.com/watch?v=dqTTojTija8 ; *note that both are partially misguided with their solutions, this is only to illustrate the mistrust.*

[9] Pepper, D. (2011). Assessing Key Competences across the Curriculum — and Europe. *European Journal of Education*, *46*(3), 335–353.

[10] Reimers, F. M., & Chung, C. K. (Eds.). (2016). Teaching and Learning for the Twenty-First Century: Educational Goals, Policies, and Curricula from Six Nations. Harvard Education Press.

[11] BIAC Character survey: http://biac.org/wp-content/uploads/2015/06/15-06-Synthesis-BIAC-Character-Survey1.pdf

and character qualities: employability is about modern knowledge, but that is a necessary not sufficient condition: skills and character qualities matter all the more. And it is obvious that such qualities also map to life's needs as well: there is no longer a dichotomy between the needs for life and those for employability.
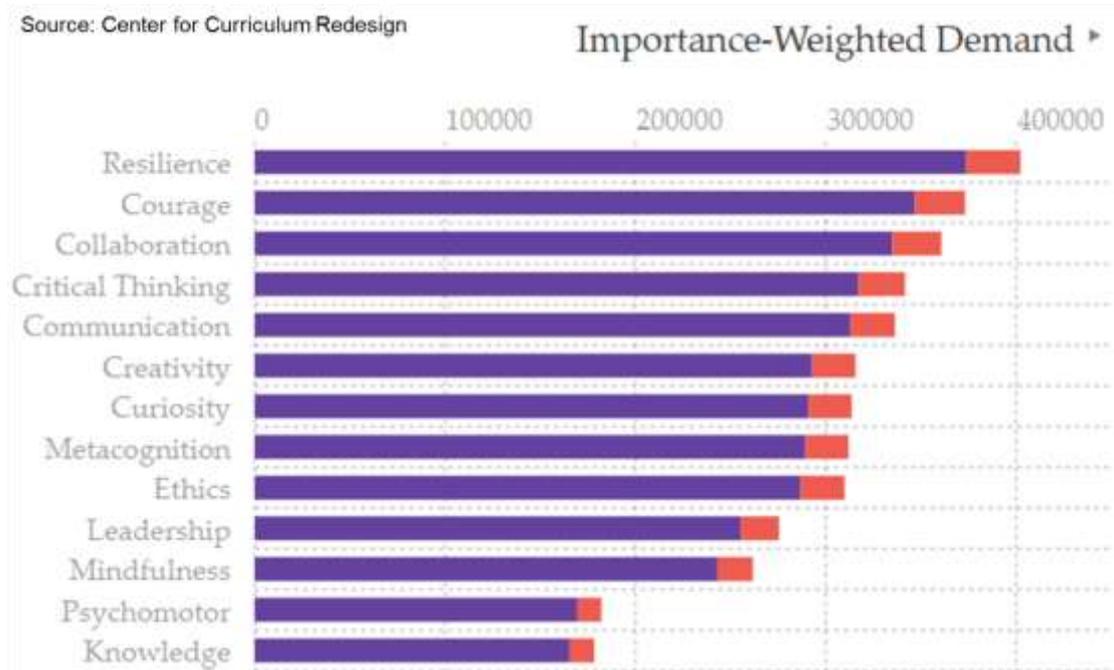
Graph: In blue: number of jobs x growth rate in 2016; in red: projection to 2026[12]

But to realize those aims and keep them moving forward, leaders have to better understand what inhibits real progress. Even as curricula evolve around the edges, students are focusing more of their time on an increasingly narrow selection from the curriculum, which is particularly resistant to change.

The reason for this narrowing is that school practice has become dominated by a focus on higher education entrance. The content that forms diploma requirements or university entrance exams is narrow because it has to conform to the demands of monitoring or assessment. **While the expansion of higher education has allowed for widened access, it has also increased the focus on higher education entry.** Firstly, widened access is related to increased competition for selective or elite institutions, raising the importance of selective entrance requirements in some contexts[13]. Secondly, as attaining higher education entrance qualifications has become a normalized goal in more contexts, schools have placed greater focus on meeting these requirements to the exclusion of almost all else. Thus, this content

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[12] https://curriculumredesign.org/onetexplorer_ccr/

[13] The OECD examined the issue of admission and non-admission for the first time in 2018. The proportion of students who apply to higher education but do not gain admission varies considerably across the 13 countries who participated in the survey, from as high as 50% in Finland and Sweden to less than 10% in France and Australia. France and Australia are, however, examples of countries with highly stratified higher education systems where there are many lower-tier institutions and students compete for entry to elite institutions. Source: Education at a Glance 2018: OECD Indicators. Indicator B4 Who is expected to enter tertiary education? DOI:https://doi.org/10.1787/eag-2018-17-en

shapes what students focus on at the secondary level, often with knock-on effects all the way back into primary school.

The problem therefore has three parts:
  a) content that counts towards higher education selection is increasingly misaligned with valuable modernized, and modern, knowledge and competencies;
  b) that content is increasingly the sole focus of formal education for aspirational students; and
  c) this content is also increasingly the focus even for students and contexts where higher education is not the goal.

Behind this problem there are several drivers. By considering each of the drivers in turn, we can better understand what we must tackle to make real progress in changing curriculum.

Barrier 1: Assessment design

A school curriculum can be made up of anything that someone might want to learn. In practice, curricula are restricted by teacher knowledge and available facilities or equipment, but overall the potential scope of a curriculum is quite broad.

Higher education entrance requirements place significant additional limitations on that scope. When higher education relies on the school system for selection, schools have to construct their teaching and assessment in a way that can be understood and trusted by universities. To do this, most countries support[14] curriculum-based centralized exams whereby the course content of the final years of school is shaped by the higher education entrance qualification. Traditionally, only a minority of the school cohort were exposed to this qualification-preparation-curriculum, as only a minority of students would enter academic upper secondary education. In recent years, however, most OECD countries have seen growth in the prevalence of general (as opposed to vocational) upper secondary education amongst the 15-19 age group[15]. In addition, the growing number of hybrid pathways or vocational pathways which also offer higher education entry[16] means that the majority of upper secondary students are studying in a pathway that is shaped by higher education entrance requirements[17]. Preparation to enter this

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[14] Many countries manage these examinations through public bodies, while a smaller number administer them through private bodies. For example, in the USA, curriculum-based external examinations such as AP or IB exams are administered through private bodies and are not required of all students entering higher education. Nevertheless, they are extremely popular with universities and are promoted by state governments as a way to achieve higher skills and opportunities for all students.

[15] Evident in OECD/UNESCO archives databases, 2000-2012 period. This trend is somewhat masked by increased enrolment in upper secondary vocational programs amongst older age groups.

[16] Dessinger, T., Aff, J., Fuller, A., & Helms Jørgensen, C. (2013). *Hybrid Qualifications: Structures and Problems in the Context of European VET Policy* (Vol. 10). Bern.

[17] The closest approximation of the proportion in current data is expected first time tertiary entrance rates, which reached an average of 66% across the OECD in 2015; while the figure is biased up by students who gain entry only to a specialized tertiary program as opposed to general higher education entry, it is biased down by students who gain general higher education entry but do not go. OECD. (2017). *Education at a Glance 2017*. OECD Publishing. https://doi.org/10.1787/eag-2017-en

stage also impacts the subjects and modes of learning students focus on lower down in secondary and even primary education[18].

The design of curriculum-based centralized examinations create four kinds of narrowing.

1.1 Narrowing all of education to traditional bodies of knowledge.

In a modern world, curricula must be adapted to reflect contemporary knowledge needs; this means that:

> a) existing, canonical disciplines such as Mathematics, Science, Language etc. must be **_carefully_** re-examined and curated for **_relevance[19]_**.

> b) core, transferable concepts which could help young people understand their world are ignored in favor of established lists of standards. In pursuit of these, students rarely reach the depth of understanding in a discipline[20] to enable transfer of understanding to new contexts.

> c) sometimes marginalized disciplines such as physical activities, and the Arts (visual and performing) must be re-valued as they are conducive to the development of Competencies (per 1.2 below)

> d) modern disciplines, such as entrepreneurship, technology & engineering[21], social sciences, media/journalism, personal finance, and mental wellness must be introduced deliberately and comprehensively. Unfortunately, the traditional disciplines have crowded out time and space from the regular school day, to the point that, generally, only wealthier environments offer these disciplines, most typically in after-school settings.

The diagram below shows for the case of the USA how subject focus has narrowed significantly over the past decades. While this is likely an extreme case, due to the extent of test-based accountability in that content, it is illustrative of how much curriculum can change unintentionally in response to assessment.
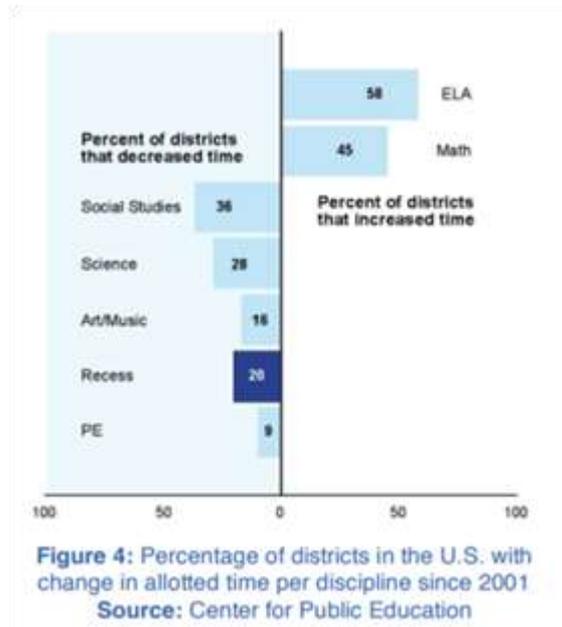
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[18] Au, W. (2007). High-Stakes Testing and Curricular Control: A Qualitative Metasynthesis. *Educational Researcher*, *36*(5), 258–267. https://doi.org/10.3102/0013189X07306523

[19] Center for Curriculum Redesign; "recommendations for PISA Maths 2021" https://curriculumredesign.org/wp-content/uploads/Recommendations-for-PISA-Maths-2021-FINAL-EXTENDED-VERSION-WITH-EXAMPLES-CCR.pdf

[20] Center for Curriculum Redesign, "Knowledge for the Age of Artificial Intelligence" https://curriculumredesign.org/wp-content/uploads/CCR_Knowledge_FINAL_January_2018.pdf

[21] Particularly those related to employability such as Computer Science, Biotech, Cleantech, and Advanced Manufacturing.

Figure 4: Percentage of districts in the U.S. with change in allotted time per discipline since 2001
Source: Center for Public Education

1.2 Narrowing education to mostly exclude competencies (skills, character, meta-learning):

Standardized assessment of competencies (skills, character, meta-learning) is still nascent[22]. Consequently, most assessment focuses on knowledge and competencies within disciplines. Assessments can be designed to sample knowledge in any discipline, but in practice they are usually organized around traditional disciplines such as language, mathematics, history etc. Moreover, higher education institutions – and relatedly school accountability systems – tend to prioritize performance in certain "core" subjects, usually primarily language and math. This is because these subjects are often considered more important and foundational, and because ***it is easier with current assessments to compare performance in particular subjects*** as opposed to across disciplines, or to new disciplines (entrepreneurship, etc.). This situation leads to a focus on these disciplines over others, and on knowledge testing over development of skill and character.

1.3 Narrowing bodies of knowledge to certain topics.

Where centralized assessments and exams are used, such assessments *could* sample from any body of knowledge of any size[23]. In practice, there are several factors which restrict the range and depth of knowledge assessed.

- Most assessments offer ***limited choice on what knowledge to learn***. Some assessments are designed to offer options over questions so that students or their teachers can choose what knowledge they focus on, but this choice is usually quite restricted. Current marking practices make it difficult to allow fuller student or teacher choice as creating assessments with many options would be expensive and could threaten comparability of performance.

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[22] Care, E., & Luo, R. (2016). *Assessment of Transversal Competencies: Policy and Practice in the Asia Pacific Region.* Paris: UNESCO; Griffin, P., & Care, E. (2015). Assessment and Teaching of 21st Century Skills: Methods and Approach (Vol. 142). Dordrecht: Springer Netherlands.

[23] Koretz, D. (2008). *Measuring Up: What Educational Testing Really Tells Us.* Cambridge, MA: Harvard University Press.

· Most assessments ***keep the tested body of knowledge stable***. Efforts to update or change the tested knowledge would make it harder to make assessments comparable across years. Test developers or policymakers are wary of demanding that teachers master new content in order to prepare their students.

· Most assessments ***sample from content that can be taught in a single course.*** Efforts to facilitate mobility between schools or education systems mean that high-stakes assessments do not typically draw on the full school curricula, but sample from a more restricted range of content that could be taught over a few months to two years. This practice makes sense, but schools have an incentive to start teaching that knowledge earlier, which further restricts the time that students might spend learning other things[24].

1.4 Narrowing topics to specific tasks.

A high-quality test would be re-constructed each year by designing new question types and mark schemes and testing their comparability against previous years. But to create reliability more cheaply, most tests keep a similar format year-on-year. This leads to predictable questions, which creates incentives to practice particular question types[25]. As a consequence, students practice a narrower range of skills and may rarely carry out the kind of complex tasks that could help to develop skills and character. The unfortunate practice of modeling formative assessment on summative assessment types exacerbates this problem[26].

The nature of the misalignment

Each of these forms of narrowing take assessed content further away from the kinds of knowledge and competencies that are increasingly most valuable in contemporary life. Collectively, they restrict time that can be spent on the following practices in schools:

- Giving students an introduction to new branches, subjects and topics in existing disciplines
- Deepening the learning of key core concepts, not merely content
- Learning non-traditional disciplines as listed above
- Embedding themes of importance: literacies (environmental, global, civic, information, and digital) and ways of thinking (systems, design, and computational).
- Explicitly learning skills, character and meta-learning via appropriate, *in-discipline* pedagogical practices.
- Carrying out inquiry projects with determined and/or undetermined foci
- Carrying out complex projects that involve going deeply into real-world topic areas
- Practicing diverse communication and collaborations skills via tasks such as speeches, debates, presentations, media productions, or most activities

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[24] Firestone, W. A., Schorr, R. Y., & Monfils, L. F. (Eds.). (2004). The Ambiguity of Teaching to the Test: Standards, Assessment, and Educational Reform. Mahwah, NJ: Routledge.

[25] Holcombe, R., Jennings, J., & Koretz, D. (2013). The roots of score inflation: An examination of opportunities in two states' tests. In G. Sunderman (Ed.), Charting reform, achieving equity in a diverse nation, 163-189. Greenwich, CT: Information Age Publishing.

[26] Christodoulou, D. (2017). Making Good Progress?: The future of Assessment for Learning (New edition edition). Oxford, U.K: OUP Oxford.

- Practicing outdoor/indoor activities for physical and mental wellness such as sport, expeditions, etc.
- Choosing a focus of learning that is personally meaningful (building a sense of purpose, and passion).

These practices are increasingly important as young people work to develop their ***identity, agency, and purpose*** (and livelihood!) amidst more diverse and rapidly changing lives. In addition, they may contribute to the character qualities such as ethics, leadership and resilience which employers say are important in the modern workplace[27]. We may debate how much time should be spent on developing these qualities versus mastering core content, but current evidence suggests that these activities are getting less and less time when they should be getting more[28].

Overall, the tendency of assessment towards narrow and predictable content goes entirely against the demands of preparing young people for a more complex and volatile world. People young and old today need to be more adaptable and ***versatile,*** *not less, and "learn how to learn' for a constantly changing world* (with metacognition and a growth mindset*). This would point towards introduction to a greater as opposed to narrower range of topics and greater un*predictability of tasks and content. *A curriculum that is shaped by assessment-based higher education entrance requirements is therefore intrinsically misaligned with most of the needs of today's students, and freezes efforts to modernize curricula.*

Barrier 2: Higher education expansion

Misalignment is one problem, but due to the expansion of higher education students are now focused more intensely on misaligned tasks than ever before. For some portion of students, college entrance has always shaped the learning experience of the final few years at school, due to the fact that higher education institutions rely on the school system for selection. But the expansion of higher education has shifted this focus to the majority of students. This shift differs across countries in line with different levels of higher education entry; countries with stronger vocational education systems have been able to produce high skills with lower levels of higher education, and so have not traditionally experienced much pressure on higher education entry[29]. Nevertheless, while these shifts will follow different paths in different countries[30], in recent decades, two drivers are visible across countries which have combined to increase the focus of schools and students on the demands of higher education entry.

2.1 Higher education as a default choice.

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[27] BIAC Character survey: http://biac.org/wp-content/uploads/2015/06/15-06-Synthesis-BIAC-Character-Survey1.pdf

[28] Levinson, M. (2012). *No Citizen Left Behind*. Harvard University Press.; Spielman, A. (2018). HMCI commentary: curriculum and the new education inspection framework. www.gov.uk

[29] Busemeyer, M. R., & Trampusch, C. (2011). *The Political Economy of Collective Skill Formation*. OUP Oxford.

[30] Graf, L. (2009). Applying the Varieties of Capitalism Approach to Higher Education: comparing the internationalisation of German and British universities. *European Journal of Education*, *44*(4), 569–585. https://doi.org/10.1111/j.1465-3435.2009.01401.x

More young people are now aiming for higher education than ever before[31] (and in an increasingly knowledge & competencies -driven society, may become a basic right such as K-12 schooling?) This expansion has been driven by high graduate wage premiums but also has a self-reinforcing quality, such that ***young people feel they need a university degree – rather than other forms of higher education - as a safety net*** against downward mobility[32]. Despite evidence in some countries that degrees are no longer reliably translating into good jobs[33], young people continue to seek degrees at increased rates[34].

The mechanical result of this expansion is that a greater percentage of a school cohort cares about attaining the qualifications required for university entrance. While the cut-off scores for entry may be lower due to efforts to widen access, because the majority of countries rely on curriculum-based examinations, schools and students still have to focus on the curriculum required[35]. In addition, these requirements, like many aspects of universities, mostly are not differentiating with expansion but often becoming more uniform[36]. Laudable efforts to widen access and to promote mobility between institutions, such as the Bologna process, have the unforeseen consequence of limiting the potential for local and national variation in entrance pathways which could foster innovation. *Unwittingly or not, higher education institutions tend to copy each other's practices, thereby enshrining a global "groupthink" as to entrance requirements.*

2.2 Increased competition for entry to selective institutions**.**

With more university places, one might expect a weakened focus on meeting requirements. But while more than half of OECD countries have "open admission systems" for at least some higher education institutions, almost all countries have some institutions and fields of study which are selective[37]. There are three reasons why focus on entry requirements for selective institutions is increasing:

- As a larger part of each cohort enters higher education, ***higher education has stratified***, with growing differences in the perceptions of and returns to selective (elite) institutions or fields of study and others. This increases the incentive for students to compete for certain

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[31] Marginson, S. (2016). High Participation Systems of Higher Education. *The Journal of Higher Education*, *87*(2), 243–271.

[32] Breen, R., Van De Werfhorst, H., & Jæger, M. M. (2014). Deciding under Doubt: A Theory of Risk Aversion, Time Discounting Preferences, and Educational Decision-making. *European Sociological Review*, *30*(2), 258–270

[33] Green, F., & Henseke, G. (2016). Should governments of OECD countries worry about graduate underemployment? *Oxford Review of Economic Policy*, *32*(4), 514–537; Machin, S., & McNally, S. (2007). *Tertiary Education Systems and Labour Markets* (Thematic Review of Tertiary Education) (p. 57). Paris: OECD.

[34] OECD. (2018). Education at a Glance 2018 OECD Indicators. OECD Publishing.

[35] For example, many countries are now experiencing a situation where some higher education institutions have very low required scores for entrance, but the senior phase of school is still shaped by the syllabus of entrance qualifications, because some students in each class are applying for the institutions which still have stricter required scores. For a discussion of this dynamic in Australia, see Pilcher, S., & Torii, K. (2018). *Crunching the number Exploring the use and usefulness of the Australian Tertiary Admission Rank (ATAR)* (Mitchell Paper No. 1). Mitchell Institute. Retrieved from http://www.mitchellinstitute.org.au/wp-content/uploads/2018/03/Crunching-the-number_Exploring-the-use-and-usefulness-of-the-ATAR.pdf.

[36] van Vught, F. (2008). Mission Diversity and Reputation in Higher Education. *Higher Education Policy*, *21*(2), 151–174. https://doi.org/10.1057/hep.2008.5

[37] OECD. (2017). Indicator D6 What are the national criteria for students to apply to and enter into tertiary education?, 402–416. https://doi.org/10.1787/eag-2017-34-en

institutions as a way to remain elite[38]. As an illustration: as the proportion of students qualifying for college-level math in the United States has increased and socio-economic inequalities in have narrowed, new inequalities have opened up in an increase of higher-income students taking calculus in high school as a preparation for elite colleges[39].

• As the number of students desiring to study particular courses or at particular institutions increases, ***additional jurisdictions have introduced standardized assessments or centralized examinations*** as part of university admissions[40]. Germany and Austria are among the European countries who are introducing increasingly centralized school exit exams, standardizing the language and mathematics knowledge that all students need to qualify for higher education entry. There are potential advantages to standardization in terms of fairness and reliability, but it also increases the incentive for students to focus more of their attention on assessed content[41]. It may be useful to learn from examples of countries such as the Netherlands and New Zealand, who have tried to balance centralized and school-based examination in higher education entry, particularly with regards to why relatively few schools use their potential to innovate[42].

• Globalization has made competition for the recognizable brands fiercer than ever. Processes of ***commensuration*** which use quantifiable information to create rankings rely on metrics such as admission rates as an indicator of selectivity and reputation, distorting admissions standards[43]. In most national rankings, the "quality of incoming students", indicated by grades and test scores, is the leading indicator of institutional quality, motivating institutions to heighten their selectivity and reliance on standardized tests[44]. In addition, these rankings raise public awareness of elite institutions whilst ignoring others and are biased towards *research* institutions with a heavy focus on STEM[45]. Rankings incentivize a brand equity

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[38] Bol, T. (2015). Has education become more positional? Educational expansion and labour market outcomes, 1985–2007. *Acta Sociologica*, *58*(2), 105–120.

[39] Domina, T., & Saldana, J. (2012). Does Raising the Bar Level the Playing Field? Mathematics Curricular Intensification and Inequality in American High Schools, 1982–2004. *American Educational Research Journal*, *49*(4), 685–708.

[40] Burdett, N. (2017). *Review of High Stakes Examination Instruments in Primary and Secondary School in Developing Countries* (Working Paper No. RISE-WP-17/018); McGrath, C. H., Henham, M. L., Corbett, A. et al. (2014). Higher Education Entrance Requirements and Exams in Europe: A Comparison. European Parliament Committee on Culture and Education; Klein, E. D., & van Ackeren, I. (2011). Challenges and problems for research in the field of statewide exams. A stock taking of differing procedures and standardization levels. *Studies in Educational Evaluation*, *37*(4), 180–188. https://doi.org/10.1016/j.stueduc.2012.01.002

[41] De Paola, M., & Scoppa, V. (2007). Returns to skills, incentives to study and optimal educational standards. *Journal of Economics*, *92*(3), 229–262.

[42] Hipkins, R., Johnston, M., & Sheehan, M. (2016). *NCEA in context*. NZCER Press; Veugelers, W. (2004). Between Control and Autonomy: Restructuring Secondary Education in the Netherlands. *Journal of Educational Change*, *5*(2), 141–160. https://doi.org/10.1023/B:JEDU.0000033070.80545.01

[43] Espeland, W. N., & Sauder, M. (2007). Rankings and reactivity : How public measures recreate social worlds. *American Journal of Sociology*, *113*(1), 1–40.

[44] Dill, D. D., & Soo, M. (2005). Academic quality, league tables, and public policy: A cross-national analysis of university ranking systems. *Higher Education*, *49*(4), 495–533. https://doi.org/10.1007/s10734-004-1746-8

[45] Rauhvargers, A. (2013). *Global university rankings and their impact: report II*. Brussels: European University Association.

"arms race", in which both private and state institutions seek "world-class" status, contributing to the stratification of higher education[46].

This sense of heightened competition is not imagined, however, but is linked to changes in employment and earnings.

Barrier 3: The changing shape of labor markets

Choices to study in higher education are not solely driven by employment opportunities, but they are related. To understand the increased grip of higher education entry requirements we have to appreciate the structural forces which contribute to it. Changes in labor markets have created new incentives for young people to concentrate their efforts on gaining a degree at a selective institution.

3.1 Increased income inequality

Over the past three decades, most OECD countries have seen *increased income inequality*, creating greater differentials between high paid and median workers, and median and low paid workers[47]. Certain occupations and firms have pulled away from the rest[48]. Because of the relationship between higher education courses or institutions and entry to specific occupations or firms, this creates new incentives for students to compete for entry to certain courses, such as economics, law, or medicine. Growing inter-firm pay differentials, particular in professional services and IT, increases the incentive for students to compete for entry to elite universities, which articulate with top firms[49].

One of the contributors to increased income inequality is that labor markets in many countries have *hollowed out*, with a growing number of low-paid jobs but fewer in the middle[50]. This trend is set to continue with automation, as PIAAC analysis suggest that for 30% workers, the skill levels they use on a daily basis could already be replaced by computers, and this would double to 60% by 2026.

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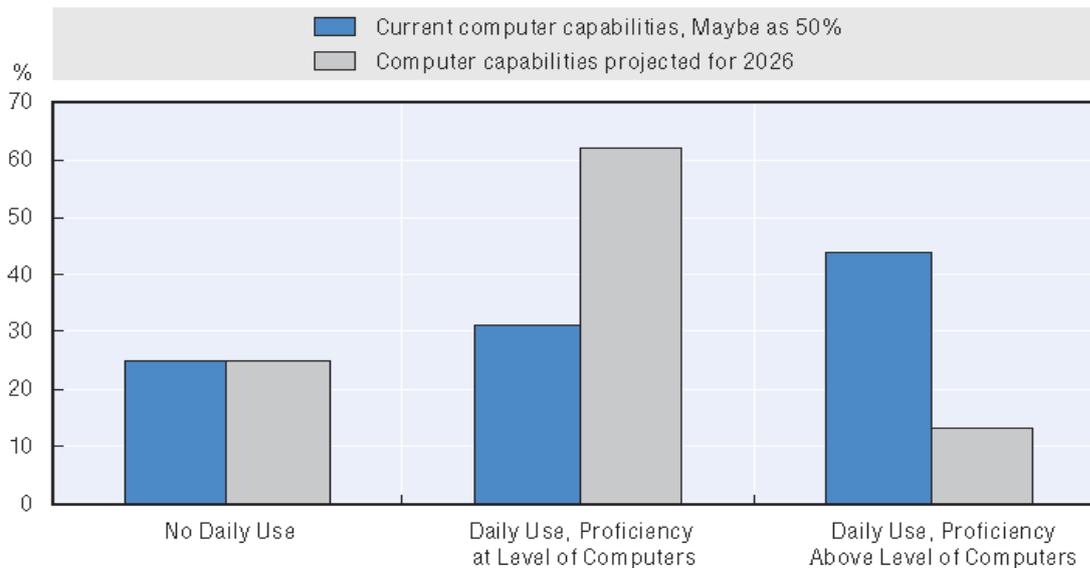
Figure: Distribution of workers according to their daily use of three general skills (literacy, numeracy and computer use), compared to computing capability

The reduction in mid-level jobs combined with the increase in university-going means that young people feel they have to attain a degree to try to avoid low paid work. In addition, a scarcity of good jobs increases the extent to which employers use grades for screening,[51] placing additional pressure on assessed content.

3.2 A shift from occupational to internal labor markets

Occupational labor markets are constructed around occupational credentials (a law degree; a journeyman certificate etc). Internal labor markets, in contrast, are based on less standardized forms of selection. With the decline of traditional industries and employee institutions such as unions, countries have been ***shifting from occupational to internal labor markets***[52]. Instead of moving around an occupation doing the work of a lawyer or plumber, individuals are more likely now to work their way up through different roles within and between firms, rising based on how much they can out-compete others. In addition, a growing proportion of young people are finding work via self-employment and "freelancing"[53]. A higher education degree from an elite

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institution is the more flexible qualification to rise as far as possible within internal or freelancing labor markets, increasing the competition for these degrees[54].

The extent to which school and university credentials matter differs according to the structure of the labor market; in countries with more internal labor markets, the level of education and grades attained matters more than having a particular specialism or skill set[55]. This situation therefore contributes to a focus on assessed content over and above developing competency in a particular real-world sector.

Overall, while there remain many unselective higher education institutions, the growing incentives to compete to enter a selective institution or field of study results in increased competition and thus greater focus on assessed content.

Barrier 4: School policy

Structural changes in the labor market increase the incentives to focus on assessed content, but this focus has also been exacerbated by school policies.

4.1 The rise of output-based governance

In an effort to promote academic achievement and the proportion of young people with access to higher education, many countries have implemented standards and standardized assessments[56]. These direct teachers and students towards a narrower curriculum throughout the school years, particularly when assessment results are made public or form part of accountability systems[57]. The growing trend towards school choice policies adds to the emphasis on assessment results as a way for schools to "market" themselves to parents[58].

4.2 Assessments are shaped by historical norms

Many policymakers would say that in introducing standardized assessments they are not narrowly focused on university entry, but are only trying to promote overall improved knowledge. But the use of longstanding assessment forms means that school assessments take on particular, often archaic forms, which do not promote a breadth of knowledge and skills: the multiple-choice standardized testing in the United States can trace their roots to the popularity of the SAT; end of year written papers in the UK resemble the written public examinations which have long been in place in those jurisdictions; oral examinations in parts of Europe are modeled on the exams long used in *Matura* and universities; and the Gaokao in China was modelled on a pre-20th century civil service exam, the Keju. Each of these formats may be beneficial for certain purposes, but the over-reliance on a single format highlights that assessment design is more closely related to historical norms than to a consideration of the

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range of knowledge, skills, character and meta-learning abilities a country might want to promote. Because of the high-stakes nature of these assessments, these norms influence the whole school sector, as opposed to only the year or two of final preparation for those students choosing a university pathway.

4.3 University-shaped assessments have gone global

The influence of higher education norms also crosses international boundaries. Only a few countries have established sufficiently strong norms and clusters of assessment expertise to gain legitimacy for their assessment approach. Around the world, many countries borrow the assessment designs of countries such as the U.K., the United States and Australia, which have effectively exported assessment expertise to low- and middle-income countries[59]. In addition, the influence of PISA on high-income countries has popularized a particular selection of content and task designs[60]. These patterns of *mimicry* have the combined effect that the content and task norms of a few disciplines in a few nations higher education sectors set the learning agenda for schools around the world.

The graphic below summarizes how Higher Education biases assessments and curricula. In the words of Lord Kelvin, "*what gets measured gets managed*", which the corporate world paraphrases as "*scorecards drive behaviors*", which is a reality of human behavior[61]. Currently, higher education entrance lends a false sense of certainty about what the goals of education should be, and is limiting the ability of K-12/school systems to adapt to new, multiple, emerging realities. *It behooves education systems to address this mismatch, and set up a new, **much wiser** "scorecard'.*

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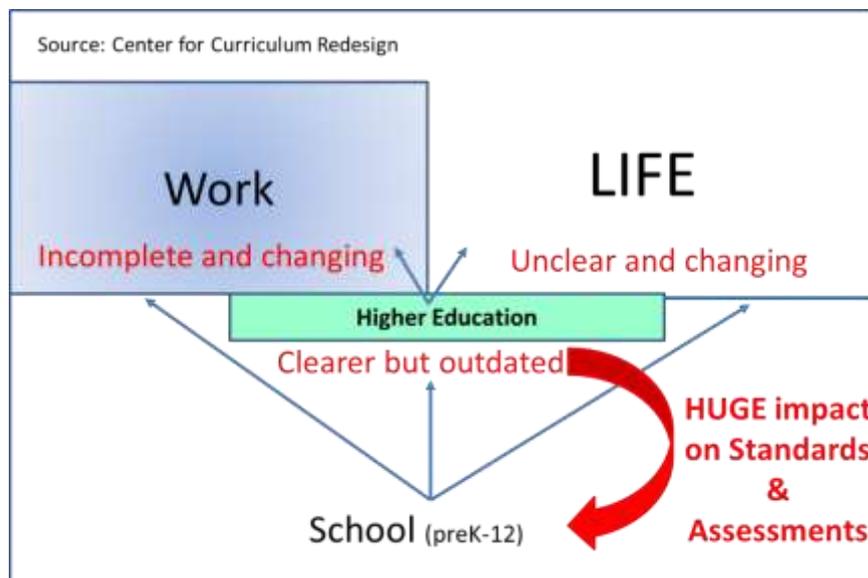
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[61] Not to mention that, no matter what, Higher Education needs some form of sorting mechanism, as they cannot accept every single entrant irrespective of acquired capabilities.

Towards Solutions

BIAC proposes to organize and run the first International Symposium on Employability and the Learner Profile" (ISELP) on October 3, 2019 in Paris, to address the following strands:

1. What are the similarities and differences between OECD countries, as far as tertiary entrance requirements are concerned?[62] What are the best practices, and do they provenly not bias primary/secondary education?
2. What are the possibilities to modify Assessments to match the desired outcomes? What does an expanded Learner Profile look like? How can formative assessments and badges/certifications be used appropriately?
3. What exercisable leverage does tertiary Accreditation hold, in helping or hindering change?
4. If governments do not react fast enough, should corporations drive the emergence of a 'double bypass" mechanism, pictured below, to accelerate the drive towards a fairer, wiser system? Are there already emerging strategies being put in place by leading corporations?

"Double Bypass" Strategy

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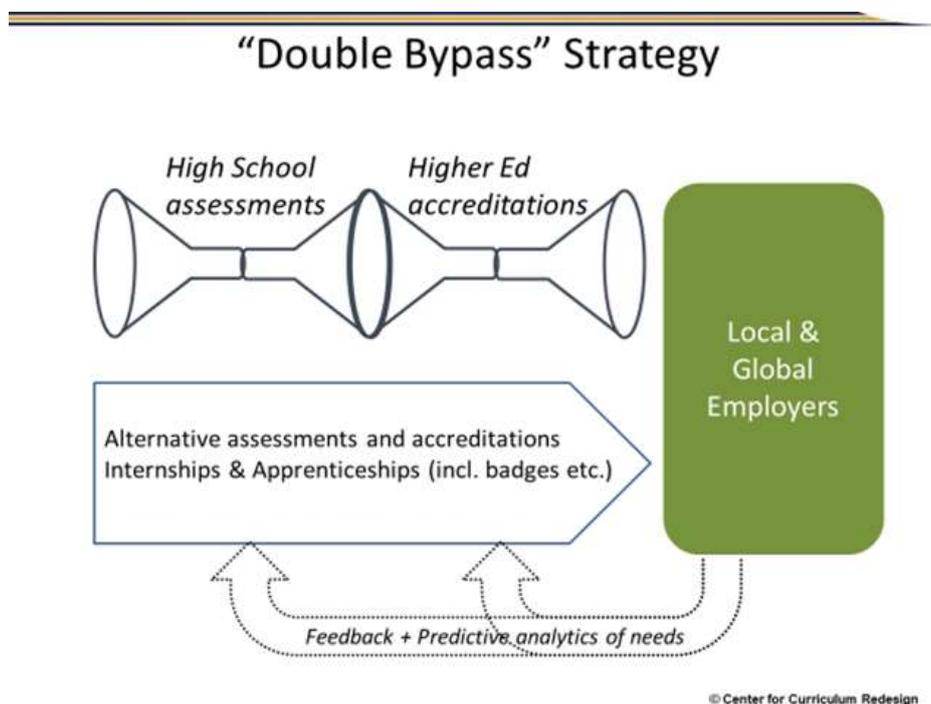
[62] This section will build on and synthesize information in the World Higher Education Database, in Education at a Glance, and additional information gathered to support the UNESCO/COE Recognition Convention