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In my previous post, I described how much of the standardization that exists in our current system of schooling is harmful to students and should be eliminated, but made the argument that not all standardization is harmful – that, in fact, in some cases it is essential to enable innovation and transformation. Today I will discuss some areas where standardization is possible, some advantages and disadvantages of each of these, and my rationale for whether standardization at this level is helpful or harmful. Standardization here tends to shift professional practice towards content coverage and away from deep understanding. Conclusion: However, as is far more often the case, when a prescribed curriculum imposes exactly one correct way generally based on content-transfer pedagogy for students to achieve those outcomes, it dooms many students to failure where alternative approaches may help them to succeed. Curriculum is an area that can benefit tremendously from innovation – a sure sign that it is a poor area for standardization. Standardized assessments Advantages Standard assessments can be a useful tool for highlighting issues of equity, making it possible to compare the achievements of large student groups by race and socioeconomic status and to identify systemic disparities. It is possible for standardized assessments to provide feedback loops for schools regarding how students are progressing that can be used to improve schooling. Disadvantages High quality assessments are very expensive to administer at scale and so are generally discarded in favor of multiple-choice tests that are relatively narrow and of limited utility in gauging the achievements of an individual student. The existence of standardized, summative tests is leading our political and educational system to fallaciously believe that what we need to understand about student growth can be distilled down to their performance on a specific test of knowledge and procedures on a given day. This belief has led to the inappropriate use of mediocre high-stakes summative testing as a proxy measure for individual student success. The high-stakes nature of summative testing biases schools towards focusing on test success at the cost of other learning that may better serve students in the long run. Rather than serving as an indicator of overall student learning, the test becomes the end goal in itself. First are the relative paucity of quality standardized tests and the immaturity of scalable standardized testing on many levels. There is interesting work happening in this area and I am hopeful that we will eventually arrive at a point where assessment is rich, deep, wide, authentic, useful, and meaningful for a single student not just large populations in aggregate. As innovation in the area of summative testing continues to move forward and improve, it will be critical to take advantage of better assessments, such as those associated with the common core, while recognizing their limitations and continuing to evolve those assessments until their limitations are overcome or the use of the results is consistent with whatever limitations remain. Second is the inappropriate use of data with limited validity and scope. Again, there is interesting work happening here – perhaps we will find ourselves with rich digital continuous assessments that are used to measure student progress towards mastery that offer meaningful and scalable ways to gain insight into student growth. At that point, standardization of assessment would move from harmful to useful, giving students the power to understand how their effort has been rewarded and to judge where to put their effort to continue to progress. I remain optimistic that the science of assessment will evolve rapidly and for the better in an era of big data. Formative assessment will no longer consist of quizzes and midterm exams but rather become a side effect of students interacting authentically with great problems and challenges in a digital environment. Until those advances are realized, the current context and limited capabilities of standardized tests generally lead their use, in practice, to be counterproductive, with harmful unintended consequences which are potentially outright dangerous to our system of education. Standardized expectations Advantages Standard expectations on what students should know and be able to do on completing public education supports some level of equity. Standardizing at the level of expectations makes it possible to innovate at the level of personalization. Standardizing at the level of expectations also strongly supports market-driven innovations for teaching and learning by consolidating the market and making it viable for truly innovative and useful new products to reach a wide audience. If expectations are standardized to prepare students for

work and life as well as college courses, on the other hand, the expectations are likely to outstrip our ability to assess outcomes against them. USEFUL

The past several years have seen a nation-wide recognition of the dangers and inadequacies of limited, rote-performance standards of what students should know and be able to do. The resulting Common Core Standards and more recent Next Generations Science Standards have successfully shifted the focus of student outcomes to practical, cross-disciplinary, higher-level performance that gets at deep understanding rather than simple rote performance. The challenging part of using these standards comes in determining the role of assessments particularly digital assessments and the use of data in feedback loops to improve instruction. Because the tools to measure outcomes, indeed, the very metrics themselves are still immature, data-driven decision-making against complex performance within the adaptive systems that are modern work-places and ideally places of learning, is likely to very quickly lead us astray as though we were blindly following a compass that had lost true north, and ignoring the landmarks even though we can see them. The immature, but evolving, data science of education can and should inform that human judgment and, in turn, itself become improved by the feedback loops resulting from that application of judgment and experience.

Standardized data formats and interoperability Advantages Standardized data formats enable sharing of data between educational applications, making it possible to provide a complete and coherent set of data regarding the learning of a given student in order to personalize that students learning, or to provide anonymized data back to educational software developers to help them rapidly improve the quality of their offerings, or to provide anonymized and aggregated data to scholars and researchers to help improve education science. In theory, well-structured feedback loops including student data could drive new innovations and improve learning on Internet time.

Disadvantages Standardized data formats and access can create opportunities for exploitation, through the deliberate or accidental revelation or commercial uses of private student information. Students may come to be defined and therefore limited by the necessarily narrow view created by the metrics and data chosen to be stored in standardized formats. This level of personalization requires students and their parents and teachers to have understanding and insight regarding their performance and the paths available to them for meeting their goals. Further, making such data available to researchers opens doors for understanding learning that becomes qualitatively different from the kinds of research available prior to the advent of big data. The benefits are too great to ignore, but the dangers of putting student data in the hands of commercial or even scholarly entities are unacceptable until such time as we standardize mechanisms for ensuring student privacy. Fortunately, there are leading organizations, such as InBloom and Amplify that are setting the precedent of ensuring, with world-class software security approaches, that student data stays within the district and that the judgment of educators, administrators, and parents are used to decide how and whether that data is shared. So, proceed with caution here, but do proceed.

Disadvantages There are significant costs to providing access for all students. Basic infrastructure supporting this level of access universally is not only a necessary though insufficient requirement for addressing both the achievement gap and the digital divide, standardizing at this level enables critical innovation at the next level up. Educators, at scale, will be able to innovate and evolve their practice to more student-centered models when they can rely on all students having acceptable levels of access. Commercial developers, foundation grant-makers, and scholarly researchers will be able to innovate in digital resources and practices that reduce achievement gaps when they can rely on their products being accessible to all students. As will become increasingly clear over the course of the next several years, quality digital access is not only a question of academic achievement, but of social justice. The decision regarding where and how to standardize is complex, ambiguous, and highly context-dependent. The question of whether the benefits outweigh the risks may be answered differently for different communities or classrooms and may depend heavily on how or whether the associated risks are understood and mitigated. The above list is hardly exhaustive, and I confess my opinion about some of these are in flux

changing as my understanding becomes more nuanced and as I learn more about how proposed standardization is actually evolving in practice. Standardization is a polarizing issue due to its importance, its complexity, and its context-dependence. Answers require systemic approaches that consider the possible unintended consequences and potential exploitation of standards. I invite you to challenge my thinking, my assumptions, and my beliefs on the complexities of standardization. I also invite you to challenge your own

and to add to this conversation.

Chapter 2 : The Standard Essential (@thestandardessential) – Instagram photos and videos

Standardization Essentials is an introductory text on the development (standardization) and use of standards that define similarity. Since the beginning of the industrial revolution, repetitive manufacturing processes have been used to economically produce similar things.

Instead of just reproducing what was said on the panel, I am going to combine a couple of key takeaways with additional information on the legal situation in the EU. As a core topic, the panel discussed the relation between SEP ownership and market power. They contain, however, no specific language on standard-essential patents which are “if they are valid and truly standard-essential” different from other patents in that they must, by definition, be used in order to operate on the respective standard-based market. In Europe at least, it seems to be increasingly accepted that SEPs can convey market power but that they do not necessarily always do so. Factors limiting market power may be, inter alia, a high number of SEPs in the standard, the need for the SEP owner to engage in cross-licensing with implementers, a strong market position of implementers in general, or even the FRAND commitment in and of itself. Furthermore, typical ICT standards consist of many different elements, not all of which are equally relevant to all implementers. Against this background, it makes an evident difference whether your standard-essential patent reads on the core of the standard; whether it reads on an additional part that is key to the implementer you are negotiating with; or whether it reads on a part of the standard which is of little interest to that particular implementer. Personally, I have my doubts whether this is true since “to give just one reason” most FRAND licenses are not formulated or controlled by courts or independent agencies and at least in such cases SEP-based leverage can impact licenses negotiated between the parties. On a different, but related note: It was stated in the discussion that, in order for a FRAND commitment to eliminate SEP-based market power, the FRAND commitment should ensure royalty rates reflecting the value of the respective patent before it was integrated into the standard. Assuming that the definition of a technical standard and the integration of a SEP into the standard adds value to the SEP, I personally doubt this often-repeated credo according to which the patentee is not entitled to any of this added value under a FRAND regime. Certainly, royalties should not fork over all of the added value to the patentee. This may provoke the critique that the rules of EU competition law on unilateral abuses mainly Art. Reliable empirical research on this point would be much appreciated, just as further court decisions on the relation between SEP ownership and market power. As a second main issue, the panel discussed where the law stands regarding the right of a SEP holder to seek an injunction in spite of the existence of a FRAND commitment. Instead, an injunction is traditionally the almost automatic result of the finding of an infringement. In this world, the creation of a far-reaching, competition law Art. Arguably it forms, at least for the ICT sector, the most significant limitation on injunctions ever established in German patent law. Some of these injunctions have been stayed by second instance courts, but not all find an extensive “German” summary of the post-Huawei case-law in the EU here. Finally, the panel tackled the question of whether a SEP holder is free to choose on which level in the chain of production and distribution it grants a license. Licensing the producer of the end product e. Some of the first instance post-Huawei case-law, by the way, seems to establish a formula according to which the SEP holder has to license all willing implementers, regardless of the level they operate on, while he is, in principle, at the same time free to choose the level on which he sues for infringement if no license is in place cf. It will be very interesting to see whether appellate courts confirm this formula. The panel seemed to be in agreement, however, that efficiency ought to be a key criterion for choosing the licensing level and that, hitherto, licenses were usually granted on the level of the end product. For patentees, this is advantageous inter alia because it avoids early patent exhaustion: Once a licensed component is sold to the next level in the chain of production patent rights regarding this particular component expire under the doctrine of exhaustion. If, however, the license is given on the end product level exhaustion usually also kicks in only on this level. He has been working, i. In these fields, he has advised governments, companies, foundations, trusts and other legal entities, as well as private persons and families. Picht is admitted to the bar in Germany and Switzerland Art. For more information or to contact Prof. Picht, please visit his University

Profile Page.

Chapter 3 : Standards and Patents

Standardization Essentials: Principles and Practice - CRC Press Book This ready reference surveys the discipline of standards and standardization, defining common terms, clarifying descriptions, describing how standards could be used to restrain trade, and explaining how international trade is stimulated by the due process provisions of.

Chapter 4 : Standardization Essentials: Principles and Practice - CRC Press Book

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Chapter 5 : ISO/TC 54 - Essential oils

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Chapter 6 : Essential patent - Wikipedia

This century is continually being marked by the convergence of this goliath world into a global village. While this phenomenon is attributable to a number of factors, inter-operability of technology and adoption of common standards have acted as important catalysts in this process.

Chapter 7 : Get started with Windows Server Essentials | Microsoft Docs

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In my previous post, I described how much of the standardization that exists in our current system of schooling is harmful to students and should be eliminated, but made the argument that not all standardization is harmful - that, in fact, in some cases it is essential to enable innovation and.

Chapter 9 : Education Standardization: Essential or Harmful? | Getting Smart

Essentials of Excellence Continuous Improvement Through Standardization What they lack in pizzazz, standards more than recoup in sustaining manufacturing progress.