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Lowest-Common-Denominator: Just a Math Concept?

Achievement gaps are a point of contention among educationalists today, particularly with the question of how to fix them or reverse the process. Closing a gap requires two sides of the divide coming together, moving either half to the other side or both to meet in the middle. When dealing with curriculum, students, and learning styles, the movement is more difficult. If a society was hell-bent on eliminating these gaps, regardless of the consequences, they could simply cut curriculum down to cater to the lowest achievement level: the ‘lowest-common-denominator’ approach. This is not particularly appealing to a society that wants to grow and encourage hard work as it would essentially remove the incentive to excel. The most preferable way to fix these gaps then is to find a way to bring all students to the highest levels of achievement, no easy (or cheap) task, but the empowerment of all students is significantly better than the degradation of some. By properly writing and implementing curricula, schools can improve the performance of low-achieving students while challenging all levels of capability, thus closing the achievement gap by raising all students to the higher standard.

Since the ‘lowest-common-denominator’ approach would technically solve achievement gaps, one must examine costs and benefits of this method and determine its feasibility. A good curriculum challenges all students, but not to the point that they feel helpless and cannot achieve results. Depressing all students to the lowest level of academic performance could make struggling students feel more empowered as the tasks are now at a comfortable achievement level. According to Pianta et al. (2008, p. 369), students learn best while being challenged and while the lowest level of students may feel more comfortable,

many of the students accustomed to higher-level work would become restless and frustrated at the ease with which they complete assignments. Joseph Robinson (2008) points out that part of this low-achieving group are Hispanic and language-minority students and that their performance in reading and math in early years (kindergarten, first grade) can be improved through ability groupings. There are benefits for every student in an ability group, and Robinson (2008, p. 142) explains this is due to the “level-appropriate, small-group, direct instruction children receive.” Robinson (2008, p. 142) continues that language-minority students benefit greatly from the “opportunities for exposure and practice of reading in English,” which they would not get in “whole-class instruction... targeted to the average level of the class” because of a lack of “direct-instruction accommodations.” If all students were made to learn at the same pace and level as students whose first or primary language is not English, it is obvious there would be a great deal of frustration and possibly even resentment towards these minorities. If ability groups allow struggling students to be helped in a way that also benefits high-achieving students, it could be a reasonable alternative to lowest-common-denominator curricula that simply lowers standards and achievement.

When setting the curricula for a school district, both high- and low-achieving students should be taken into account in order to produce a challenging but manageable syllabus. Student achievement, Pianta et al. (2008, p. 366) argues, takes “the right mix of curriculum, professional development, and instructional supports” into account. Relevant and well-written curricula then, are crucial to encouraging student development. In order for curricula to be considered relevant to a school, it should take into account the highest- and lowest-performing students and provide appropriate material to cater to those skill levels (and everywhere in between). It should be left fairly open-ended and allow or encourage ability group divisions, especially in a diverse student population. The curricula should be tailored towards the school culture, including considering demographics and socio-economic

backgrounds of both students and the community at large. Well-trained teachers should write the curriculum (with input from administrators) because of their proximity with the students and their knowledge of the school's culture. Their proximity could make them pessimistic and lack confidence in their students' abilities, which is why administrative *support* would be useful. In fact, teachers should be provided with more all-around autonomy in regards to the implementation of the curriculum. According to Linda Darling-Hammond and Laura Post (2000, p. 136, 143), a lack of "professional autonomy" is one of the main factors perpetuating teacher shortages in struggling schools, particularly because of over-prescriptive lesson plans and curricula which leave teachers little "adaptability." Darling-Hammond and Post (2000, p. 128) also stress that "teacher effectiveness" is "an extremely strong determinant of differences in student learning" and a source of student inequality and, therefore, achievement gaps. Increases in teacher autonomy would allow a school to tailor a curriculum directly to their students, providing teachers with enough leeway and ability to adapt and suit individual students' needs, leading to an increase in teacher effectiveness, and cutting down on achievement gaps.

Beside this new, teacher-written curricula tailored towards providing each student with individual support, there must be an increase in funding. According to Darling-Hammond and Post (2000, p. 127), "the wealthiest 10 percent of school districts in the United States spend nearly ten times more than the poorest ten percent" which are generally in "central cities" and have a high concentration of "poor and minority students," larger class sizes, "fewer and lower-quality" resources, and "less qualified and experienced teachers." These poorer districts are generally where the lowest achievement resides, particularly due to their lack of resources and inability to attract well-trained teachers. These achievement gaps are not just in test scores either: they have far-reaching and damaging effects, sometimes to entire ethnic groups. As Sean Reardon and Claudia Galindo (2009, p. 854) highlight,

educational outcomes of Hispanic students (often large portions of populations in poorer schools) are “well behind” those of their white, Asian, and sometimes black counterparts, especially in regards to “high school completion rates” and the numbers who “attend and graduate from college.” Darling-Hammond and Post (2000) are adamant that educational outcomes of these minority populations in poorer schools can be improved through more resources and better teachers, both of which require more money allocated to education. Lisa Guisbond and Monty Neill (2004, p. 13) point out that “good teachers already know which students are falling behind,” but even if they *are* ‘good’ (well-trained and effective), many lack the resources or support to solve the problem themselves.

Simply purchasing better textbooks and other materials fixes the problems with insufficient resources, but ensuring the presence of “good teachers” requires money put towards training and teacher education. According to Darling-Hammond and Post (2000, p. 133, 130), effective educators are better with “curriculum development, classroom management, student motivation, and teaching strategies” and that “every additional dollar spent on more highly qualified teachers netted greater increases in student achievement” than money spent on other school resources. Therefore it is imperative that money be spent not just on more resources, but particularly on teachers’ training, hiring, and salaries. Each district needs to be sure that their teachers can handle classrooms diverse in ethnicity, background, and ability, as well as a robust curriculum, designed to afford them the opportunity to connect with each student individually on both instructional and emotional levels. Pianta et al. (2008, 369) explain that teachers should integrate emotional aspects into “instructional activities, discussions, and even transitions” in order to create an environment with “personal relationships, high expectations, a productive learning orientation, engaging activities that stimulate thinking as well as social interaction, and regular critical feedback and questioning.” A great deal of training and experience is required to achieve successful

integration of each aspect mentioned by Pianta et al. (2008), but in order to create a safe and productive learning environment, connect with a diverse group of students, implement the curriculum, and close the achievement gap, the funding allocated for teachers must increase.

A 'lowest-common-denominator' approach to closing the achievement gap would only result in lowering standards across the board. While this would technically narrow the gap between the high- and low-achieving students, ability groups are a much more efficient and successful way of doing so. Ability groups do not have the adverse side-effects that come from tailoring a curriculum specifically towards struggling students, and they can help students of all backgrounds, making it a much fairer and more successful solution. Teachers should assist in writing curricula for their own school, particularly because they understand their students and the culture of the community. Any curricula designed should take into account as many different student achievement groups as possible and allow teachers to tailor aspects towards specific individuals. For many minorities, especially Hispanics and language-minority students, the achievement gap is not just in test scores, but in overall possible educational attainment. Many schools with large minority populations are underfunded and in less affluent areas. In order to successfully implement an achievement gap-closing curriculum in these schools, more funding and better trained teachers are necessary. If curricula is properly written (to challenge all students) and implemented appropriately (with increased funding and by well-trained teachers), it can tackle achievement gaps better than could a 'lowest-common-denominator' policy.

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