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The Tyranny of Bogus Numbers in Academia

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In a frenzy of ignoring principles and structures in various institutions in our society, the institution of academia has proven not to be an exception. For many non-academic institutions, flaws in judging the performance of individuals can reflect in institutions' output. This is not the case for academia as it is not easy to measure the quality of research and education, at least in the short run. So, citizens of a healthy nation should pay closer attention to the standards of academia compared to other institutions. And that is exactly where we are faltering.

It is commonsense that the governing body of academia—i.e., faculty members, department and college heads, and presidents—should be people of academic type. They need to have judgment to understand the proper working of an academic institution and evaluate students, staff, and faculty. They should show skills, or at least serious interest and aptitude, in writing, reading, speaking, thinking, arguing, managing classrooms and students, and general knowledge and literature. In their particular area of focus and research, faculty members and professors should show interest, knowledge, and judgment. Academia, as an institution, is founded on these activities, and so, such expectations from people who run academia is commonsense. But these days one should add "old-school" before such "commonsense".

Today, the performance of people in academia—particularly faculty members—is often not judged based on commonsense academic criteria, but with a set of numbers and statistics. Examples of such statistics to evaluate faculty members are:

- number of published works,
- number of citations or similar quantities counted from certain online services (e.g., Google Scholar),

- number and amount of internal and external grants,
- number of awards and certificates,
- number of registered patents,
- number of students that a faculty advises or serves as a committee, and
- ratings from students in classes.

And, examples of such statistics to evaluate the performance of colleges, departments, and universities are:

- standing in certain rankings (e.g., U.S. News & World Report),
- number (or increase in number) of students that a college or program enrolls, and
- number (or increase in number) of faculty in a college or department.

It is needless to present evidence for the vast reliance on these statistics in evaluating people and institutions in today's academia; researchers and faculty are increasingly being hired and promoted based on these statistics (see Fire & Guestrin, 2019), and institutions with higher rankings are more likely be funded by the government (e.g., Comen et al., 2017).

The fact that quantitative statistics are being used in decision-making is not, per se, problematic. The problem is in what those numbers refer to, which in this case, can be irrespective of commonsense academic skills for faculty and institutions. For example, the number of published works or citations from a faculty does not indicate academic performance; one can increase the citations of a published article in ways that do not indicate the quality or impact of the work (see Biagioli, 2016). You only need to write a manuscript, cite some references that you like to increase their citations, and upload them in public online repositories (e.g., arXiv.com) without the peer-review process; this is just one way to increase citation counts

irrespective of the quality of the work. Similarly, the quality of education in a university is not measured by such statistics.

As can be easily predicted because of undue reliance on such numbers, there are growing cases of mischievous attempts in improving such numbers. For example, a group of researchers form a circle (or "collusion rings"), cite each other's works and increase their citations or standing (for a recent example, see Littman, 2021). Although such cases are obvious examples of unethical activities, we should acknowledge the fact that such practices exist in certain institutions and disciplines, particularly in certain disciplines. Although faculty hiring and promotion committees, as well as government funding agencies for research, do not reveal their judgment criteria, people in academia are aware that those statistics play an important role in evaluating faculty and institutions. Regarding our discussion, it is important to declare that standing in such statistics do not, in any way, indicate academic skills and excellence. As a result, in evaluating the performance of academics and institutions, such numbers and statistics are *bogus*.

It is unfortunate to see not only parents who pay attention to bogus numbers and rankings in choosing a college for their children, but also department heads and recruiting committees in academia who hire new faculty and evaluate their performance based on bogus numbers. The result of this situation is an unhealthy competition to get ahead in bogus numbers with little attention to improving academic excellence. Graduate students and junior faculty become infected with bogus numbers in order to increase their chance of finding jobs or getting tenure, and institutions try to improve their ranking for reasons such as securing more external funding. Those with serious talent and skills would be discouraged when they see bogus numbers being

used to compare them with their peers. In a society in which many academic institutions follow such an unhealthy path, students will suffer from having unqualified professors, research grants will be given to unqualified researchers, and faculty positions will be filled with unqualified scholars. In short, the society as a whole would suffer.

So, misusing services such as U.S. News rankings and Google Scholar is wreaking havoc on our higher education. In response, there have been some attempts against the reliance on bogus numbers in academia. For example, in 2007 presidents of a group of Liberal Arts colleges signed a letter dismissing participation in the U.S. News ranking system (see Wald, 2007). Unfortunately, such decisions are hard to find.

Now the question is: what should replace bogus numbers in judging people in academia and academic institutions? First of all, informed judgment. Indeed, informed judgment needs experience, or consulting with experienced scholars. This is in part because important academic skills such as writing, speaking, argumentation, and structuring a classroom cannot be easily quantified; it is only by being in the presence of a person, or by qualitative assessment of their work, that an informed scholar can accurately form a judgement. The current reliance on bogus numbers is the result of lacking informed judgment; any lay person can serve the role of a manager of a department or funding agency by using numbers in decision-making.

Additionally, any quantitative measure should be devised and used carefully by and within institutions. This is because the goal, context, and purpose of institutions and departments are different, and so, they need different qualifications. Bogus numbers, as listed above, are being used universally and regardless of the context and institution. So, using quantifiable scales

can be effective but only if practiced wisely; history has shown that quantitative scales are more likely to be misused than qualitative scales.

Academia should remain academia. The widespread use of bogus numbers in many colleges and universities is making academia into a bad and unprofessional business with short-term profits. Indeed, improving the institution of academia cannot solely depend on adopting proper evaluation criteria, but is a massive socio-political endeavor. But we can start from ourselves and hesitate the next time we are using bogus numbers for evaluations.

For a detailed discussion on the topic in various sectors of society, see Muller (2019).

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