

## CREATING AN INSTITUTIONAL ECOLOGY THAT SUPPORTS RESEARCH

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Research capacity has large influence on a nation's competitiveness and its economic strength. Institutions can make a significant difference in the research productivity of their faculty. Indeed, research shows that institutional affiliation (where one is a faculty member) is an important predictor of productivity over time (Bland et al, 2006). What this suggests is that effective scholars thrive in a certain kind of academic "ecology." The purpose of this paper is to describe several key features of this environment and to pay special attention to what will be required to cultivate the next generation of researchers.

The question of research productivity is of particular importance in Kazakhstan. The Ministry of Education and Science's State Program of Education Development in the Republic of Kazakhstan for 2011-2020 (2010) points to the importance of education in fueling the country's economic growth. A key objective laid out in the document is improving research by "*training highly qualified scientific and scientific-pedagogical staff*" (p. 4). However, there are some significant challenges. Kazakhstan needs to develop a new cadre of scholars. The average age of researchers is 55 (p. 12.) Further, many of most able and academically gifted students are lured into business and industry where the pay is much greater. Young faculty members must also contend with a high teaching load. A recent World Bank report notes that "*the typical teaching load of a lecturer was 800 to 900 class contact hours a year (...) compared to 180 to 240 contact hours in Canada, the United Kingdom and the United States*" (OECD - World Bank, 2007, p. 165). In addition to these challenges, Kazakhstan's universities have great infrastructure needs - better laboratories and information technology. It is therefore no surprise that research productivity tends to be low. As the State Program estimates, the share of universities that are carrying out "*innovative activity through the integration of education and science and implementation of domestic research results into production*" in 2010 was zero (p. 18).

Although the situation in Kazakhstan is challenging, the recent waves of education reforms suggest that the Government is serious about making progress in the area of education and research productivity. What characteristics need to be established at the institutional level in order foster greater research activity?

First, institutions must be clear about their expectations regarding research. The most fundamental expectation is that of academic freedom - the right to examine any line of inquiry without constraint. There are more prosaic considerations as well, for example researchers should be clear about expectations regarding output. These cannot be reduced to a universal and rigid formula (X number of publications per year.). They must be flexible. Expectations for publication must accommodate the realities of the workplace (such as teaching load) and also must take into account disciplinary realities. It is impossible for an anthropologist to produce papers as fast as a quantitative policy analyst - ethnography takes time. While the gold standard of productivity has tended to be "*top tier peer reviewed journals*," there are high quality peer reviewed journals whose audience is practitioners or policy makers. These are important venues for scholars to make an impact on their field and ought to be valued appropriately. Finally, it is important to take into account both quantity and quality. A scholar who publishes fewer articles than other colleagues but whose work is highly original should be rewarded, not penalized for failing to meet some arbitrary goal.

Second, faculty members must have adequate resources to produce high quality research. Some of these resources are basic and tangible - labs to work in and access to library materials. Most research universities in the U.S. provide start-up funds for new junior faculty members to support their research. At places like Stanford and Penn it is not uncommon to provide \$5,000 in start up funds for new junior faculty and that amount can greatly expand if there are specialized needs like equipment and lab space. Junior faculty at research universities are also supported by staff members who help them identify potential grants, edit their grant proposals, and administer the budgetary aspects of grants that are ultimately won. The most important resource a faculty member can be given is time. A consistent funding in studies that examine productivity is that large teaching loads diminish scholarly output (Graves et al, 1982). A fairly typical load at a research university in the U.S. might be two courses per semester with the ability to buy-out at least two of those courses through grants or certain administrative responsibilities. Simply put, producing world-class research requires making strategic (and world class) investments.

Third, it's important to establish landmarks that enable faculty to see their progress over time. Many institutions use end of the year evaluation processes and allocate merit pay. Some Kazakhstani universities are also using various forms of merit pay (especially since salaries at public universities are set by the Ministry.) In the U.S., junior faculty often have a review after their first several years where they present what they have accomplished and layout longer term plans for their scholarship. The University of Texas system has put into place a system for periodically evaluating all faculty members to influence salary, promotion and in extreme cases termination of employment. The process is designed to encourage self-reflection and remediation for faculty who need help. When done correctly, faculty members report that these processes help them be more intentional about planning their research activities.

Fourth, creating an institutional ecology that supports research means not only paying attention to the extrinsic rewards system, it means paying attention to intrinsic rewards. People tend to be drawn to a life in the academy because they are curious about the world (and about their academic subject) and because they want to make a difference. They are internally motivated. Inspiring faculty is less about dangling incentives in front of them than supporting their own curiosity and desire to be a part of an intellectual community. These kinds of activities can take many forms. Junior faculty can benefit from being connected to senior scholars who can serve as mentors (Gappa et al, 2007). Relationships such as these help young scholars develop social knowledge about what it means to be an effective researcher and can help build strong professional networks (Blackburn & Lawrence, 1995). Some institutions have developed internal grant processes that encourage the involvement of both senior and junior faculty. Creating a vibrant community of ideas also means creating opportunities for faculty to share their work-organizing colloquia, profiling interesting developments on the university website, inviting faculty to share their expertise in events held in the community on topics of interest.

The founder of the University of Pennsylvania (and a founder of the United States), Benjamin Franklin, once said that "*genius without education is like silver stitt in the mine.*" In the same way, brilliant young scholars without the environment to cultivate their talents will result in them failing to achieve their promise. Strategic investments by institutions (and the government that supports them) should give researchers the guidance and support and

resources they need so that they, the institution, and indeed the world can benefit from the fruits of their imagination and their insights.

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