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The Wide Margin Between the Academic and Researcher in a New Age University for Sustainable Development

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Abstract

Faculties in higher institutions will typically be engaged in teaching, research or both. Teachers and researchers are very important in the university. The former ensures adequate transfer of knowledge, inspiration and mentorship to the students and to a large extent eventually determines the quality of their contributions upon graduation. The latter has always been the fulcrum for technological advancement in the society. Though individual preferences play a role in the "wing" each academic "play" in the institution, the institution's culture has been noted to be a significant determinant. In addition, it has been noted that some scholars tend to focus more on research because it presents attractive incentive from the institution. When this is the case, some faculties that would ordinarily would love to focus on teaching will delve into and spend significant time in research for potential economic gains and often at the detriment of teaching. This work suggests universities should make conscious efforts to shrink the margin between the academic and researcher so as to always satisfy the mission of the universities and meet societal and industry expectations. When the culture in the university supports individual passions, everybody wins.

Keywords: Teaching; Research; Faculties; Institution

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1 INTRODUCTION

The university environment is like an industrial set up which provides a melting point opportunity for people with diverse educational attainments, trainings, skills, interests, intentions and potentials. The Webster lexicon characterizes a college as "a foundation of higher getting the hang of giving offices to instructing and research and approved to concede scholastic degrees; particularly: one made up of an undergrad division which presents four year certifications and a graduate division which contains a master's level college and expert schools every one of which may give graduate degrees and doctorates". Teaching and research are two key activities that those within the university system must undertake to realize the mandate given to the institutions and produce graduates that will drive improvements in all facets of human existence.

There have been arguments that research and teaching cannot be carried out together in various fora. Questions like “must all faculty members teach and do research” have been asked. Also, some have argued that that one can hardly be a good teacher except the person is a good researcher. “Professor Richard Felder of North Carolina State University” in response to such questions believes that such is an illogical axiom. He added that it is inimical to the “cause of good education” to conclude that research program should be the basis for the faculty incentive and reward system in universities. Most university leadership insists that appointment and promotion will continue to be based on excellence in both research and teaching. However, very few faculties have demonstrated ability and time to excel at both research and teaching; most faculties would typically give priority to either research or teaching and just do the much required of the other one [1]. Most faculties tend to be attracted to research due to various incentive, recognition and reward opportunities. This eventually impacts the quality of both research and teaching as most teaching is done by faculties who has little interest or time while much research is done by faculties who would rather focus more on education if given the opportunity.

However, this paper will carry out further review on the wide margin between the academic and researcher in a new age university environment. This will help to bridge the gaps and enable the policy makers that is the government to make policies that will balance this wide margin between the academic and the researcher to attend sustainable and quality university education.

2 REVIEW ON UNDERSTANDING THE ACADEMICS, RESEARCHERS AND THE SIGNIFICANT ROLE OF THE ACADEMIC VERSUS THE RESEARCHER

2.1 UNDERSTANDING THE ACADEMICS

The academic has been defined as the teacher or scholar in a university or other institute of higher education. Most faculties have responsibilities in research, teaching and administration, particularly when hired as a lecturer. The time dedicated to each of these roles varies widely depending on the time of the academic year, one’s experience and other administrative responsibilities. When students are on campus, significant amount of time is spent on preparation, assessment, delivery and examination, particularly for those that have lecturing responsibilities. For those that have administrative responsibilities, such as being a post graduate coordinator, admission officer etc., significant amount of time will be spent on meetings, implementing new ideas etc.
The ratio of academic staff to administrative staff and academic staff to students in universities varies from institution to institution and from country to country. Institutions are not typically under obligation from the government to maintain specific academic staff to administrative staff ratio. In Canada, there is common complaint by academic staff that non-academic staff and administrators are multiplying and taking over the institutions [2]. According to Usher [2], the ratio of academic to non-academic staff compensation, 1979-2011 in Canada is shown in the Figure 1.

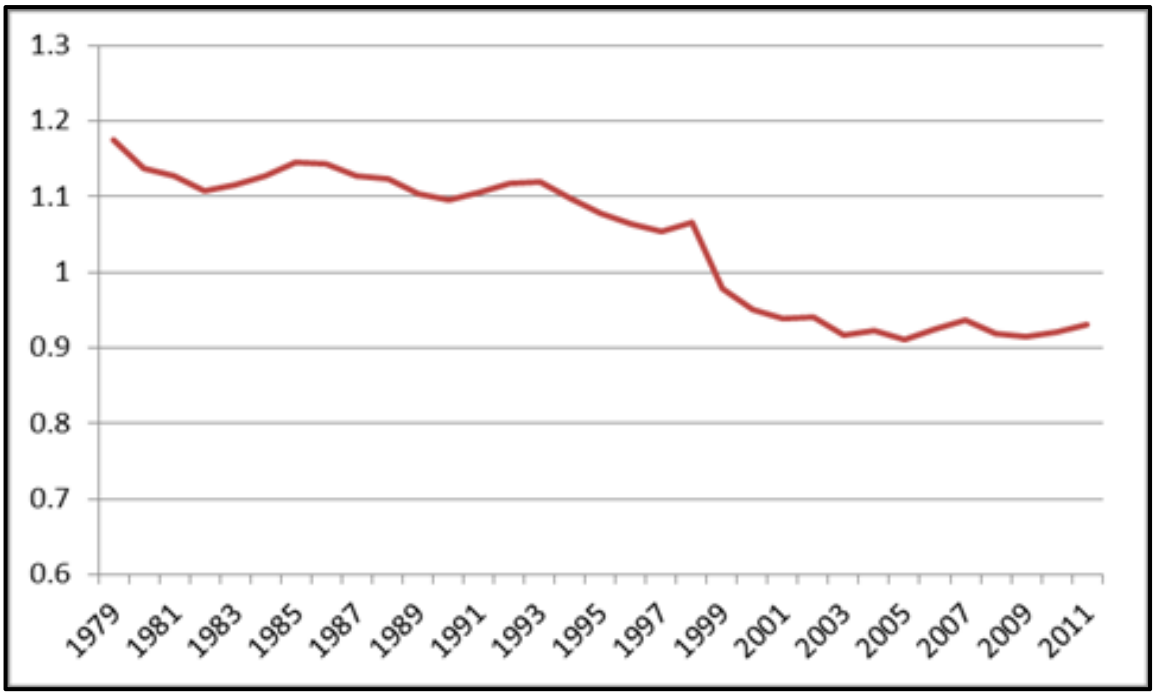

Figure 1: Ratio of Academic to Non-Academic Staff Benefit, 1979-2011. Source: CAUBO/Statscan Financial Information of Universities and Colleges Survey

From the figure above, it is seen that in 1979, total academic salary mass was 17% higher than non-academic salary mass but dropped to less than 7% in 2011. Remarkably, the country did not see any change for about a decade: the ratios have remained essentially stable after a gradual fall for about 20 years.

Marcus [3] noted that the number of non-academic staff in United States of America higher institutions has increased two times its size in the last twenty-five years, exceeding the increase in the number of students or academic staff based on analysis of national figures. According to the research, the lopsided increase in the number of university non-academic staff have continued relentlessly in recent years, slowed a bit in the advent of downturn in the economic. Furthermore, the study noted that from 1987 to 2011-12, a total of 517,636 administrators and professional employees were added by both universities and colleges (an average of 87 every working day), per the statistics released by the "New England Center for Investigative Reporting". The statistics are principally theatrical at nonprofit, private universities, whose numbers of administrators alone is twice those of academics. The research also reported that the productivity in U.S private universities are on the decline as they add 12 employees per 1000 full time students since 1987 per federal statistics. "While the rest of the economy was shrinking overhead, higher education was investing heavily in more overhead," said Robert Martin, an economist at Centre College in Kentucky who studies university finance. He added that "staffing per students is a valid way to judge efficiency improvements or declines". There are now 2 non-academic staff at public and 2.5 at private institutions for every one of academic staff in the United States. In a higher education staff statistic in UK published in 2018 in https://www.hesa.ac.uk/news/18-01-2018/sfr248-higher-education-staff-statistics, Out of the 419,710 staff employed as at 1 December 2016, 49% juof them were hired as academics; retaining the same trend since 2013. As at the same time, 48% having teaching and research function were also hired. 27% of the academic staff were teachers which was 1% higher than in the previous year. Table 1 below shows the distribution of academic and non-academic staff in UK universities for five years. From the table, it will be noted that the number of non-academic stall exceeds that academic staff.

Table 1 – Occupation Classification of all staff covering 2012/13 - 2016/17Source: [4]

Activity standard occupational classification	**2012/13**	**2013/14**	**2014/15**	**2015/16**	**2016/17**
Managers, directors and senior officials	505	480	495	565	540
Professional occupations	183,820	192,460	196,465	199,770	204,660
Associate professional and technical occupations	1,340	1,240	1,365	1,425	1,660
Clerical and manual occupations	10	55	10	5	10
Total academic staff	185,670	194,235	198,335	201,770	206,870
Managers, directors and senior officials	11,055	11,135	11,175	10,980	11,190
Professional occupations	35,805	37,010	38,865	40,825	42,840
Associate professional and technical occupations	43,425	44,650	45,830	46,335	47,330
Administrative and secretarial occupations	64,810	66,550	67,595	68,600	69,315
Skilled trades occupations	6,315	6,400	6,500	6,620	6,540
Caring, leisure and other service occupations	7,015	7,035	7,175	7,000	7,200
Sales and customer service occupations	1,940	2,365	2,145	2,515	2,345
Process, plant and machine operatives	1,700	1,695	1,660	1,630	1,570
Elementary occupations	25,315	24,710	24,550	24,245	24,505
Total non-academic staff	197,375	201,545	205,500	208,750	212,835
Total staff	**383,045**	**395,780**	**403,835**	**410,515**	**419,710**

Oribabor [5] reviewed the academic / non-academic staff ratio of Nigerian universities from 1995-1999 and discovered "that there was a minimum of four non-academic staff to one academic staff in the Nigerian universities". The ratio of non-academic to academic staff increase to 5:1 in 1996 and 1997 respectively. Table 2 below provides details of the finding in the year under study.

Table 2: Academic/Administrative Ratio. Source: N.U.C Annual Reports (1995-1999*)*

Year	Ration of Academic to Non-Academic Staff
1995	1:4 (4:18)
1996	1.5 (4.68)
1997	1.5 (4.38)
1998	1.4 (3.67)
1999	1.4 (3.73)
Mean	1.4 (4.15)

In a related work by Sainta et. al. [6], it was noted that efforts to expand enrollments and improve quality of education in Nigeria are mainly constrained by rising shortages of qualified academic staff. A 12% decline in the number of academic staff was noted from 1997 to 1999 even though there was 13% rise in enrollment. Subsisting brain-drain, increasing admission into the higher institutions without commensurate outputs, has challenged the ability of the university system to fill more than 48% of estimated staffing needs. Academic staff dearth is most prevalent in science, engineering and business faculties. The report noted the following academic staff shortfalls: "engineering – 73%, medicine – 62%, administration - 58%, and sciences - 53%".

There is emerging research on the greatest contributors to overall performance of a higher institution. There are arguments that increasing or decreasing academic staff to non-academic staff ratio will lead to improved performance of the school. However, reputation still emerges as a critical factor in determining the performance of an institution, though there are several other institutional features that can be manipulated to show good performance [7].

2.2 UNDERSTANDING THE RESEARCHERS

According to Institute of Germanic and romance studies, “a researcher is a scholar who can, or will in time through learning and experience, demonstrate”:

- "Specialized learning or mastery, reasonable and scholarly limits, for example, the capacity to distinguish and outline key issues, to think fundamentally and systematically, and to create and convey intriguing and unique bits of knowledge".

- "Academic aptitudes, for example, the capacity to deliver academic top notch composed work and research papers - plainly formed with the goal that the contention, and the confirmation that backings it, can be gotten a handle on by the target group".

- "Research aptitudes, for example, the capacity to utilize sources adequately, to assemble and compose data, to break down content, information and hypothesis".

- "Personal properties, for example, the aspiration and capacity to work to elevated requirements, to step up and obligation, to be efficient in one's methodology and adjusted in one's judgements, to team up well with others where fitting, and to accept and join productive feedback".

- "Social aptitudes, for example, the capacity to liaise with understudies, associates and scholastics from different establishments in a successful and fitting route, to have the capacity to conform to various conditions required by the scholarly world and to coordinate into the bigger network of researchers".

Some universities tend to have substantial focus on research and have been termed Research universities just like some higher institutions tilt more towards teaching [8]. The tendency for research universities to employ staff with unquenching drive for research is high even though such researchers will necessarily engage in teaching in order to train the students. As valuable institutions, most universities that focus a lot in research usually employs brilliant academics and serve majorly post graduate students [9]. Most big countries tend to have many research universities while smaller countries have one or no research university. Altbach and Salmi [9] reported that “in the United States, for example, there are perhaps 150 globally relevant research universities out of about 4,800 tertiary institutions; India have about 10 of such universities out of its 18,000 institutions, and China has about 100 among its 5,000 or so institutions”. In many countries, Research universities produce majority of the original basic and applied research as well as most of the research funding. Their professors are often employed based on their aptitude and qualifications to carry out research; this attracts recognition and reward as they demonstrate skill and productivity in research. They have structures for research reward which is part and parcel of the culture within the institution. Though teaching and other counseling services are important, research is typically recognized as a more important value within the institution. Virtually everyone within the academic environment (including undergraduate students) will have the opportunity of being involved in a research.

The number of researchers across the world has continued to change. According to Jenver [10], the number of researchers has grown to 7.8 million (about 21%) since 2007 with a corresponding rise in science related publications, according to science report released by UNESCO titled “Towards 2030”. European Union, China, Russia, the United

States and Japan continues to produce 72% of the world's researchers. Figure 2 below provides more details.

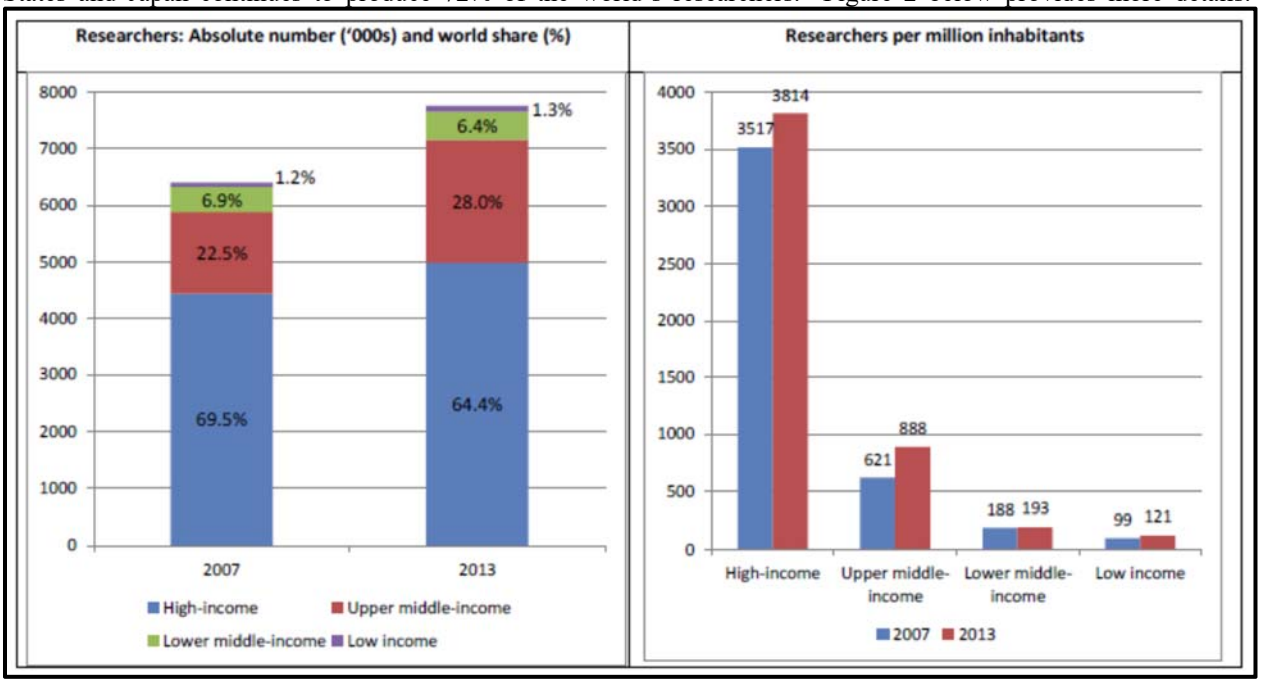

Figure 2: Researchers and researcher intensity, 2007 and 2013. Source: UNESCO Science Report (2015) Towards 2030

The European Union boasts of 22.2% share researchers making them the world's leader. According to Jenver [10], the "number of researchers increased by almost a third (32.2 %) in the EU from 2006 to 2016, from 1.42 to 1.88 million. Almost half (49.3 %) of researchers in the EU worked in business enterprises, 38.6 % in higher education and 11.2 % in government in 2016. Men accounted for two thirds (66.4 %) of researchers in the EU in 2016". But since 2011 China (19.1%) has overtaken the US (16.7%), as forecast in the UNESCO Science Report 2010. Japan's and Russia's world share shrunk from 10.7% in 2007 to 8.5% in 2013 and from 7.3% in 2007 to 5.7% in 2013. Scarcity of certain skills has continued to hinder diversification in economy in Africa. Certainly, there is need for more professionals like technicians, scientists, engineers etc. for Africa to achieve its developmental goals. African statistics is as follows according to Jenver (2015): "91 (FTE) researchers per million inhabitants in sub-Saharan Africa, 495 in North Africa; this is up from 77 in 2007 (sub-Saharan Africa) and 474 in North Africa". However, this number remains less than the "world average of 1083".

Discoveries across the world have been largely fueled through research in the universities. From the invention of the telegraph, the discovery of AIDS, the origination of the internet, advances in stem cell research and current advances in nanotechnology. In the USA, 56% of the nation's basic research is being conducted at universities (http://www.bestcollegereviews.org/top-research-universities/). According to a work published by Onwujekwe [11], there is tremendous value in entrenching research culture and the gains of such culture includes:

- Enhancement of the global visibility of the university
- Enhancement of ranking of the university
- Enhancement of global visibility and ranking of individual staff members of the university
- Attracts income to the university and the individual researchers
- Attracts world class faculty to the university
- Keeps staff and students busy
- Enhancement teaching and other academic activities
- Research outputs are essential for evidence-based decision making and for economic development

2.3 THE ROLE OF THE ACADEMIC VERSUS THE RESEARCHER

Åkerlind [12] reviewed literatures that investigated the ways academics understand research and constituted four categories based on interview data as follows:

a. Those who see research as academic responsibility: Here, research taken as a key job responsibility which needs to be done to retain one's position or be perceived as adequately fulfilling one's academic role. This category also sees research as a process of identifying and solving problems following distinct research steps. In addition, there is a focus on completing the project than on contribution to the body of knowledge.

b. Those who see research as establishing oneself in a particular field: The principal motivation here the discovery of new things in the academic's area of expertise leading to special recognition in their field. This might include an excitingly new and substantial discovery or a relatively modest one that will make the academic famous in their field. Though this category acknowledges that research is requirement in academics, the primary focus for the research is to create a sense of personal achievement and fulfilment. Generally, there is the perception that there are both inherent and extrinsic gains from engaging in the research. The research focus is on how it affects the larger field but ultimately for the researcher's recognition and esteem. Such researchers at times have the feeling of frustration and uncertainty and at some other times, fulfilment and delight, based on the individual's perceptions of their chances of making the desired discoveries and impacts. Extrinsic benefits drive publication of research work so as to carve out a niche within the research territory and gain academic standing amongst other researchers in the field.

c. Those who see research as a means of developing oneself: In this category, research is mostly seen as the investigation of concerns that interests the researcher, focusing on progressing work on an area of interest which may have generated questions in the past. Though this involves discovering of new things, as in category "b" above, the apparent results of research focus on the intrinsic benefits. There is a primary motivation on satisfying the inquisitiveness of the researcher and improving understanding of a challenge, with complementary feelings of passion and curiosity in the research.

d. Those who see being a research as a means of enabling broader change: In addition to intrinsic benefits, this category extends focus on benefits to a larger community. Here, research is perceived as a way of tackling broader issues to the researcher's area of interest or expertise. For example, advancing social course in line with researcher's values falls under this category. The academics tends to approach their research with every sense of passion, with the hope of producing quality material that will help address issues. Spreading or sharing the outcome and encouraging change amongst the research/social community is the perceived purpose of publications. At times, the researcher focuses on non-academic publications to be able to reach broader audience.

Does teaching relate to research in any way? For decades, performance in research has been the key and at times the only basis for appointment and promotion in university engineering faculties, and it's becoming progressively vital at universities whose main mission had always been teaching [13]. Felder [13] recognized the trend as having led to unfortunate consequences particularly when intense pressure to source for grants as well as publish papers compel faculties to devote more time on their research and a minimum on teaching, relationships, health and quality of life. He observed that faculty members with numerous research records who teach routinely tends to attain full professorship while those heavy on teaching and average or less on research productivity don't get such opportunities. It has been observed that many research papers have been published that have little or no contribution to societal advancement technological innovations and may not witness significant citation.

There are school of thoughts that there is inseparable relationship between teaching and research, some argues that highly productive researchers end up being excellent teachers. Felder [13], however, argues that goals of research and teaching are different goals and likewise the skills and so one would not expect close relationship between productive

research and effective teaching. According to him, advancing knowledge is the goal of research and excellent researchers are typically observant, full of objectivity, easily draws inferences, and tolerate ambiguity. Teaching strives to develop and boost aptitudes; exceptional teachers are good at communication, conversant with learning enhancing conditions and expert strives to establish them, are sociable as well as empathetic. Having the traits of a researcher and teacher is absolutely desired but it is not necessarily a sine qua non for success as a faculty. More so, excellent teaching and researching can be time consuming, could be more than 40 hours in a week, so spending time on one area deprives the other area of such time. Therefore, it should not come as a surprise if studies have not been able to reveal significant linkage between productivity in research and effectiveness in teaching.

The unwritten rule that all university academics should be active researchers places difficult and unwholesome expectations on academic staff; wanes teaching programmes in the department; inhibits passionate outstanding teachers from devoting required time and energy to realize their potential; deprives students of some inspiring and perhaps life-transforming coaches, counsellors, and role-models. Taking this further leads to some questions: How can much desired potential synergy between teaching and research be achieved and how can institutions reward and promote excellent teachers that have little passion for research without compromising institution's research goal or grant attraction?
Prince et al. [14] proposed the following for making research-teaching link stronger:

- Encourage lecturers to utilize inductive instructing styles. A staff may adequately advance learning by educating in a way that copies components of the exploration procedure. Inductive techniques, for example, request based, issue based, and venture based learning do that. At the point when executed accurately, they encourage understudies' achievement of abnormal state considering and critical thinking abilities (Prince and Felder, [15].
- Involve a reasonable number of students in the research. Many students should be involved in the research to add greater value to the department while the faculty or advisor should provide adequate mentorship and not treat them as additional hands.
- Initiate recognition and award programme for lecturers who effectively combine research and teaching. Such effective combination involves inclusion of relevant researchers work into lectures, examinations, and assignments; deploying inductive means of teaching and showing how effective they are; and mentoring students via adequately conducted researches. If adequately implemented, they will u ultimately contribute to building the academic culture.

3 MAKING RESEARCH AND TEACHING STRONGER

Felder [16], argued that making the linkage of research with teaching stronger can improve teaching somewhat; teaching quality will remain below what it should be if research excellence is recognized and rewarded above and beyond teaching. Felder [17] proposed two strategies to improve a university’s teaching program tremendously without compromising quality of research and the productivity of researchers.

- Ensure every department should have minimum of 10% of academic staff who are passionate about and excel in teaching and scholarship in education.
- Ensure equal treatment of performance in both teaching and research particularly during appointment, promotion and reward of staff members.

The intention is not to make teaching more dominant than research or attempt to reverse their positions in terms of recognition and reward. Research contributes immensely to the advancement of our society and industries since most industries will hardly engage in research that doesn't bring immediate and definite return in terms of production output.

4 CONCLUSION

Not every faculty member has the aptitude to be excellent in research and teaching; Some lecturers manage to excel at both teaching and research and are usually few in all departments. So, apart from employing people who are astute researchers, departments in the university should employ passionate teachers and educational scholars who has little or no interest in research. It is also argued that being an outstanding teacher or scholar will motivate students to learn as well as inspire them to grow. Such teachers are virtually remembered all their lifetime by the alumni who will potentially be willing to make discretionary donations and provide other forms of supports when the need arises.
University leadership are often concerned that employing and rewarding teachers will adversely impact productivity in research, but that should not be the case. Some traditional teachers will find time to write additional proposals when they are less involved in some other responsibilities. In addition, the researchers will be able to bring in some research funding provided each year on teaching. Having teachers in the department will allow teaching and research to be done devotedly and effectively by faculty members who naturally enjoy and demonstrate great competence in both activities. If the teachers are held to the same strong performance expectations for appointment and are promoted and comparatively compensated like research counterparts, every faculty member wins.

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