

The Measurement of Publication Outputs in the Six Universities in Hong Kong

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Universities in Hong Kong have been under rapid change after entering the last decade of this century. Academics are urged to have more research outputs besides their teaching. This article investigated the developmental trend of publication outputs among these universities. Data were collected from the annual reports of research and publication outputs of these universities. In order to have a fair comparison of publication outputs of each academic, department, faculty and institution, the author developed a framework from practical experience and literature to investigate the problem. Results indicated that the publication outputs of academics in Hong Kong were about the same as those in other countries. However, pressing faculty too hard for research publications would not necessarily raise output immediately.

進入二十世紀最後的十年, 香港各大學正面臨急速的轉變, 其中的學者們不單要教學, 且要有更多的研究成果。本文探尋本港各大學的學者們所發表著作的趨勢, 資料來源主要是出自各大學每年出版有關其本身各學者的研究及著作概覽。為著能對各學者、院系及大學發表的著述作一個公平有系統的比較, 筆者從文獻及其經驗中制訂了一個計算研究著作成果的方法, 從而列出香港各大學各學院及各等級的學者們的著作成果, 發覺本港學者們在這方面的成就與外國沒有多大分別, 而且從上而下壓力不一定能即時提高著作的成果。

Universities in Hong Kong enjoyed a relatively calm and stable existence before 1989. Teaching in a university was comfortable, prestigious and for the time, well paid. However, this was not necessarily the case in the outside world. Universities in Australia and U.K. were actively discussing performance indicators in the 1980s while universities in North America had been competing long before that (Hattie, 1990). The local picture changed quickly after the then governor, Dr. Wilson, announced a developmental plan of tertiary education which resulted in the number of universities growing from two to seven.

All the universities have been competing keenly for their own development since then. Rapid expansion has led to the lowering of new students' academic standards. In order to cope with this, tertiary institutions have to improve the quality of teaching. At the same time, the institutions have to pay more attention to their own reputation to attract more funding and capable students.

Traditionally, the reputation of a university depends on her success in research rather than teaching. Many studies have indicated a high correlation between research output and reputation (e.g., Howard, Cole, & Maxwell, 1987; Matson, Gouvier, & Manikan, 1989). Success in research is mainly based on the amount of publication outputs by faculty members. Hence the pressure for more publication has quietly crept into the universities of Hong Kong in the last few years.

Lewis (1975) provided a detailed analysis of the phenomenon "publish or perish" when US universities appeared to be affected by the pressure for more publications. He pointed out that the great majority of academics had little or no publications at all and the threat "publish or perish" was just a myth. Ladd and Lipset (1977) conducted a survey of 4300 faculty members randomly selected from 158 institutions. They found that 29 percent had never published an article; 59 percent had never written or edited a book or monograph, and 60 percent had never published more than four articles or received funding for research. Hattie, Print, and Krakowski (1994) found similar results in Australia: 33% of academics in education published nothing while a further 26% had written between one and three

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publications only. However, the myth is real in the case of Hong Kong: some institutions even tell (in black and white) their faculty members about the conditions for substantiation, crossing the bar or reappointment, one of which is a certain amount of publications in certain categories of journals.

In the last few years, the University Grants Council in Hong Kong did a research assessment exercise to investigate the publication outputs of individual departments among the local tertiary institutions. Cowan (1995) complained that the research assessment exercise was too complicated. He suggested that a mere count of papers from the citation index journals was good enough for the exercise, at least among the scientific areas. This view is supported by Braskamp & Ory (1994), but may have drawbacks: the size of a different academic field varies; citations may not be positive but critical; highly significant works become common knowledge quickly without being cited; some important works may be neglected by contemporaries; the language of publication may be biased; local journals may be missed; over count of in group citations, etc. (Centra, 1979; Cole & Cole, 1967; Dahllorf, Harris, Shattock, Staropoli, & Veld, 1991).

This article attempts to investigate the publication profile of academics drawn from the Faculties of Business, Education, Humanities and Social Sciences in the six universities in Hong Kong during the period of 1990-94. This is the area that Cowan (1995) left out in his study and the area that can be seriously affected by simply counting citation index journals. The disciplines in these faculties all belong to the soft academic areas as classified by Biglan (1973). Their research and publication works often relate to local problems which may not be of interest or significance to the global academic world. Hence Cowan's treatment is not appropriate in this area since many publications of the academics in these three faculties may not appear in the citation index journals. The author intends to shed additional light on this problem, helping to improve the local policy of publication related to appointment, tenure and promotion.

Method of the Study

The six universities (CityU, CUHK, HKBU, HKPU, HKU, HKUST) publish an annual report on research and publication outputs of their faculty members. Each academic staff has to file

in his research and publication record in the report in order to show to the public his/her own achievement in this area. However, for those faculty members who have not published anything, their names will not appear in the reports. On the other hand, for outsiders who are visiting scholars or co-researchers with some members of that department, their names may appear in some of the reports of some universities. Since these reports do not show the full list of the academics in each department, it is difficult for readers to know the performance of each department, faculty or institution as a whole. The present study tries to give a more accurate account and analysis of the publications listed in these reports so that a clearer profile can be developed.

Since there are many forms of publication: articles in journals, newspapers, bulletins and magazines, books, chapters in a book, monographs, research and working reports, paper presentations in conferences, articles in conference proceedings, etc., it is difficult for readers to distinguish between the relative and combined importance of all these forms of publication. A number of researchers have examined this issue (e.g., Cave, Hanney, & Kogan, 1991; Centra, 1979; Dahllorf et al., 1991; ESFCSRI, 1990; Gabbin, Cairns, & Benke, 1990; Goedegebuure et al, 1990; Hattie et al, 1994; Miller, 1974; Tognolini, Adams, & Hattie, 1993).

After studying all these different methods of weighting in calculating the total publication outputs of individuals and departments, it is clear that no universally accepted standard exists. However, those people who perform the research assessment exercise would still need a reference frame in order to carry out their duty. After carefully comparing different methods of scaling and the local situation, the author arrived at the following method of weighting and counting of publication outputs which might be appropriate for a fair comparison of publication outputs (in points) among the Faculties of Business, Education, humanities and Social Sciences in the six universities of Hong Kong:

- 1) newspaper article: **0.5**;
- 2) magazine article, working paper, monograph, research report or presentation at local conference: **1**;
- 3) presentation at non local conference, article in local conference proceedings, chapter in a locally published book, editor of a local journal or locally published book: **2**;
- 4) article in non local conference proceedings,

chapter in a non locally published book, editor of a non-local journal or book, author of the new edition of a published book: **4**;

- 5) article in local journal or author of a locally published book: **10**;
- 6) article in regional journal or author of a regionally published book: **15**;
- 7) article in an international journal or author of an internationally published book: **20**;
- 8) if there are more than one author for the above items, the weighting should be divided by the total number of authors;
- 9) the upper limit of the total number of items in the above calculation should be 10 annually; in other words, one should choose the best 10 items for the calculation of a faculty member's annual publication outputs if there are more than 10.

There will of course be questions about the above method; the author would like to include some arguments for the above weighting and calculation which might be acceptable to some readers.

- 1) Some academics would consider newspaper or magazine articles to be of little or no value at all. However, one must accept that academics do not live in an ivory tower, they must try to explain to the public what they are doing. Newspaper and magazine articles may serve this purpose well. In the long run, this kind of publications may help to gain support from the public on issues such as funding which is crucial to the survival of the academic community. Hence, academics' publications in this area should not be neglected. In order to avoid over emphasis, the upper limit of the best 10 items in point 9 above should be enough to offset this (Braskamp & Ory, 1994; Clement & Stevens, 1989).
- 2) Working papers, monographs, research reports, and presentations are just intermediate forms of publication. All these can be reorganised to become journal article or books, so their weighting is not high to avoid over count (Tognolini et al., 1993).
- 3) It is a common practice to value non local publications more than the local ones since they are usually more difficult to get published in (Vroeijenstijn & Acherman, 1990; ESFCSRI, 1990). There is certainly a language bias factor here (Dahllof et al., 1991). Non local academics usually have the advantage in

language while publishing their papers elsewhere.

- 4) Readers may realize the difference between refereed or non refereed journals. Even though refereed journals are supposed to be more reliable in quality, some still question whether this discrimination is essential or not (Miller, 1974). For some editors, whether a journal is refereed or not is just a game: the existence of soft and tough reviewers is unavoidable. Further more, there is a trend that more journals are striving to become refereed in order to be recognised. Eventually, whether a journal is refereed or not is not so important. Since some of the publication reports of the six universities do not say whether those journals listed are refereed or not, the author just considers all journal articles of the same category mentioned in the above method carry the same weight.
- 5) Some may query the ground for different weighting for different kinds of publications. This was not arbitrarily determined but based heavily on literature (Centra, 1979; ESFCSRI, 1990; Gabbin et al., 1990; Vroeijenstijn & Acherman, 1990) and practices in some universities of Hong Kong.
- 6) Some faculty members, especially those tenured or established ones, may have a tendency to under report their publications. However, since reporting is the duty of all faculty members, they are not fulfilling their own responsibility to the university if they do not report in detail. This will backfire on themselves in the long run.

Results

From the 1990-94 annual reports of research and publication outputs of each institution, the publication profile and hence the publication outputs (in points calculated by the method proposed in the previous section) of each member in the report was obtained. The academic rank of each member was checked by cross referencing with the catalog of that university. Since there was a different ranking system between the "old" universities (CUHK, HKU, HKUST) and those recently upgraded ones (City U, HKBU, HKPU) before 1993, the author converted all the ranks of those members in the upgraded institutions to the

present ranks in order to provide a fair comparison. In particular, principal lecturers would be converted to senior lecturers, senior lecturers would become lecturers, while lecturers would remain the same. There might be some individual discrepancies among the conversion which would be traced by the author carefully against the annual catalog. Similarly, whether that member had been promoted or left in a certain year could also be checked.

Table 1 is a list of the average publication outputs of an academic (in points) in the six universities between 1990-94. The author collected all the research & publication reports of five universities, while the sixth university just had the 92-94 reports. Hence only two years' results of that university were calculated, the other two years' results were estimated so that a complete set of data could be listed. This was done to avoid unnecessary guessing of the names of the universities leading to immature comparison by the readers. The number inside the parentheses is the standard deviation. Again, the total number of members involved in the three faculties (business, education, humanities and social sciences) of each university was not listed for the same reason to avoid guessing. A slightly upward trend of publication outputs is found between these four years. However, the publication outputs varies a lot across different universities and also across different years for the same university.

Table 1
Average publication output of an academic in the universities

University	90-91	91-92	92-93	93-94	y-average
1	10.9(16.9)	10.5(17.3)	18.4(24.0)	10.4(17.9)	2.6(19.6)
2	7.4(18.0)	10.6(20.4)	8.4(16.9)	11.9(19.5)	9.8(18.8)
3	4.8(8.8)	5.8(11.6)	6.5(12.5)	5.4(12.0)	5.7(11.4)
4	1.6(4.8)	7.1(17.3)	2.6(8.4)	3.0(9.0)	3.6(11.0)
5	0.6(3.3)	5.2(16.4)	4.1(9.6)	8.0(15.9)	4.6(12.8)
6	7.3(14.5)	10.5(18.7)	14.7(23.9)	7.6(11.9)	10.2(17.5)
<i>I-average</i>	5.6(13.4)	8.2(17.3)	9.0(17.8)	8.0(15.3)	7.8(16.2)

Table 2 is a list of the annual average percentages of academics who have no publication outputs in different universities during

the period between 1990-94. No statistics has been performed to trace those academics who have not published anything for two, three, or four years. There is a decreasing trend in these four years indicating academics have been working harder to increase the publication outputs.

Table 2
Average percentages of academics who have no publication output

University	90-91	91-92	92-93	93-94	y-weighted average
1	40.9	39.0	26.4	48.0	38.6
2	56.1	42.1	37.7	13.7	35.0
3	42.9	35.9	38.5	53.3	42.1
4	76.9	44.3	68.0	64.8	63.2
5	89.8	53.5	54.2	31.1	56.5
6	11.5	8.1	2.4	11.5	8.2
<i>I-weighted average</i>	60.8	42.9	40.4	35.2	43.2

Table 3 is a list of the publication outputs of different ranks of academics in all these universities between 1990-94. The first and second number in the parentheses is the standard deviation and the number of academics in that rank in that year respectively. It is clear that academics of higher ranks generally are more productive than the junior ones.

Table 3
Publication output by ranks of academics

	90-91	91-92	92-93	93-94	y-average
P & R	14.9 (20.4, 46)	21.2 (31.4, 57)	25.8 (32.2, 73)	23.2 (29.0, 90)	22.1 (29.4, 266)
SL	7.4 (14.1, 139)	12.4 (21.9, 128)	11.1 (19.6, 134)	11.5 (19.4, 179)	10.7 (19.1, 580)
L	5.2 (13.9, 601)	7.4 (16.9, 625)	8.8 (18.0, 712)	7.0 (14.0, 673)	7.2 (15.9, 2611)
AL & I	2.1 (6.2, 110)	3.8 (8.0, 122)	3.3 (7.6, 173)	2.7 (5.7, 205)	3.0 (6.9, 610)

Note: P—professor, R—reader, SL—senior lecturer, L—lecturer, AL—assistant lecturer, I—instructor

Table 4 is a list of annual average percentages of different ranks of academics who have no publication outputs between the period 1990-94. It can be seen that there are decreasing trends among the lecturers, senior lecturers, readers and professors while the assistant lecturers and instructors remains about the same during this period. The percentages of non-productive academics are also decreasing while moving up from the assistant lectures and instructors to the readers and professors.

Table 4
Average percentages of academics who have no publication output by rank

	90-91	91-92	92-93	93-94	<i>y-weighted average</i>
P & R	29.8	28.3	24.7	26.7	27.0
SL	60.9	39.5	49.7	49.2	49.7
L	71.0	54.3	53.7	48.9	56.4
AL & I	73.0	62.7	59.6	55.0	61.1

Table 5 is a list of the publication outputs of the academics in the three different faculties of the six universities. It can be seen that the academics in the faculty of education are more productive than those among the business, humanities and social sciences.

Table 5
Average publication output of academics in different faculties

	90-91	91-92	92-93	93-94	<i>y-average</i>
Business	3.8 (10.1, 383)	7.8 (15.9, 409)	8.9 (16.4, 467)	7.4 (14.3, 529)	7.2 (14.7, 1788)
Hum. & S.Sci	6.5 (14.5, 377)	7.8 (16.7, 393)	8.8 (9.6, 476)	8.2 (16.4, 472)	8.0 (17.1, 1718)
Education	9.3 (18.3, 136)	10.5 (22.3, 135)	9.6 (18.3, 149)	9.2 (16.0, 146)	9.6 (18.5, 566)

Note: Hum. & S.Sci—Humanities and Social Sciences

Table 6 is a list of the annual percentage of academics in the three faculties who have no publication outputs during the period of 1990-94.

There is generally a decreasing trend in the percentages of non productive academics. Faculty of Education again has the smallest percentages of non-productive academics.

Table 6
Average percentages of academics in different faculties who have no publication outputs

	90-91	91-92	92-93	93-94	<i>y-weighted average</i>
Business	63.7	38.3	35.2	31.7	40.1
Hum. & S.Sci	58.4	48.1	48.6	43.7	48.9
Education	57.6	45.3	36.8	27.2	39.6

Discussion

Several years ago, the University Grants Council of Hong Kong conducted a research assessment exercise by asking the institutions to submit the publication results of their academic staff in the form of their best three papers in the immediate past three years. Even though they did not specify formally the type of publications which was qualified, it was implied that the minimum acceptable standard would be equivalent to one paper in a local refereed journal annually. When converting to the present scale, this would be approximately 10 points per year.

However, faculties in different universities have set up varying standards for their own staff in the past. Whether the standard lays down by the HKUGC would become an objective criterion is still questionable. One university had once informed her academic staff that the publication outputs required for substantiation should be at least 2 articles in international journals in the immediate past three years, i.e. about 13 points per year for the present scale. For reappointment, the requirement should be at least 2 articles in local journals in the immediate past three years, i.e. about 7 points per year for the present scale. Having this kind of standard in black and white (if reasonable) is better than those who do not list it out. Cases have been known that for other universities which have no such formal requirement, individual faculties have raised the standard to an unreasonably high level (than the above case). Not only very few members who sought substantiation could reach the standard, a

great majority of those who sit in the substantiation committee would also not reach the standard if they themselves have to go through the substantiation process again.

From Table 1, it can be seen the average annual publication outputs of an academic in the six universities during the period 1990-94 is 7.8, i.e. three quarters of an article in a local journal per year. For a lecturer, the average outputs is 7.2 or about 0.7 of an article in a local journal per year as shown in Table 3. However, these publication outputs are not confined to refereed journals or books but include almost everything. In other words, the average publication outputs for a lecturer would probably be quite a bit below the requirement set down by the senior personnel. Furthermore, Tables 2, 4 & 6 indicate clearly those who have no publication outputs. The percentages are not low even though they do not deviate too far away from the figures shown in other countries (Hattie et al., 1994; Lewis, 1975). For those academics who are still under probation (i.e. those who do not have a tenure), no or just a moderate number of publications is not acceptable under the present atmosphere of striving for more research outputs. No wonder quite a number of academics have been warned or sacked in recent years (see Ming Pao, 2.3.94; H.K. Economic Journal, 18.3.94). This kind of things did not happen among the universities before the HKUGC research assessment exercise, except for a few isolated cases.

The reader may question whether the standard set by the University Grants Council is too high. Do they have adequate grounds for the standards they set? In fact, similar standards can be found from the literature (e.g. Hattie, 1990; Kasten, 1984; Vroeijenstijn & Acherman, 1990). Since the policy makers in HKUGC or the senior personnel in the universities are mainly of the ranks of professor or reader, one would notice in Table 3 that the average publication outputs for them is 22.1. It is understandable that the standard they set would probably derive from research literature and their own experience. However, they themselves were among the most highly productive academics. In fact, that might be the major reason that they were promoted to these senior positions. They should not impose their own standard on their juniors. Interestingly, when Vroeijenstijn & Acherman (1990) reported their study in the Netherlands, they found that the majority of the academics in their study could not reach the standard of one journal article (10 points) per year.

If the standard of one journal article per year is too high, what should be a better standard then? Centra (1979), Hattie et al. (1994) and Lewis (1975) have investigated the problem separately and arrived at similar conclusions: the average publication outputs of an academic was less than one journal article in every two years. The ESFCSRI study (1990) among tertiary institutions in Mainland China found that the average publication output of an academic was 7.6 points (after converting to the present system by the author). So the average publication output of the academics in Hong Kong is not so bad as indicated in the public accusation by the Legislative Counsellor Ms Emily Lau Wai Hing after all (see Ming Pao, May 18, 1995).

The results in Table 3 are similar to those obtained by Hattie et al. (1994) and West, Hore, & Boon (1980). Hattie et al. offer this explanation, "Senior academics have more collegial networks, are more likely to work in research teams, have a greater knowledge of manuscript acceptance procedures, and have a greater number of graduate students." Research publication does not stop when the prospect of promotion is getting to an end, the motive of research involvement appears to be intrinsic rather than extrinsic.

The results in Table 5 & 6 are also in accord with Hattie et al. (1994): educationalist across the universities in this study had a higher publication output than those in the faculties of business, humanities and social sciences. However, the author noticed that the percentage of senior academics in the faculty of education was not as high when compared with other faculties. Is this a further indication of the myth that the faculty of education is often neglected or even looked down on by colleagues in the other faculties and hence harder for its staff to get promotion?

It seems that the average publication outputs (including all written materials) obtained in tables of this article may be a good reference point for the HKUGC officials or senior personnel of the six universities. Since there are quite a large percentage of academics who published nothing at all as shown in Tables 2, 4, & 6, and many of these people have already got tenure, just pressing those who have not obtained tenure to publish in international refereed journals is not only unfair but also unrealistic as shown in the results obtained in this study. Greater pressure will not guarantee more output as indicated in Table 1: the average publication output actually dropped in 1993-94 after the HKUGC carried out the research

assessment exercise. This result is also in accord with the overall result reported by the HKUGC to the public (Research Output, 1996). However, the recent HKUGC research assessment exercise (1996) is going to ask each academic staff in the universities to file in the best 5 research output items completed in the past 4 years, indicating a further 25% increase in research output when compared with the previous exercise in 1993. When will they realize the dangers warned by Cheng (1995) & Ho (1995) which would bring permanent harm to the Hong Kong society, especially the universities?

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