Chinese medical doctors negotiating the pressure of the publication requirement

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Abstract

China's medical research has been growing in visibility at the international level in recent years. Contributing to this development is the English-publishing policy now often found in the country's major hospitals. In this paper, I report a study conducted at the Orthopedics Department of a major hospital in east China. Based on interviews with eleven orthopedic surgeons who are expected to publish both Chinese and English (SCI) papers (with the latter privileged), I describe their reactions to the publication policy and their approaches to fulfilling the publication requirement. The paper will end by calling for more contextualized research that brings forth the voices of English as an Additional Language (EAL) researchers in various academic and professional contexts.

Keywords: medicine, clinician researchers, Chinese doctors, publication policy, the pressure of publication.

Resumen

Médicos chinos manejando la presión que implica la exigencia de publicar

La investigación en China en el contexto médico ha adquirido mayor visibilidad internacional en los últimos años. A su desarrollo han contribuido las políticas de publicación en inglés que hoy por hoy están presentes en los principales hospitales del país. En este artículo presento un estudio realizado en el Departamento de Ortopedia de un hospital importante ubicado en el este de China. Basándome en entrevistas realizadas a once cirujanos de la especialidad que tienen la intención de publicar artículos en chino y en inglés en revistas con índices de prestigio (que dan preferencia a los escritos en inglés), describo sus reacciones a las políticas de publicación y cómo enfocan la exigencia de publicar. Este artículo concluye reclamando la necesidad de conseguir una investigación más contextualizada que se haga eco de las voces de los investigadores que

utilizan el inglés como lengua complementaria en distintos contextos académicos y profesionales.

Palabras clave: medicina, investigadores clínicos, médicos chinos, políticas de publicación, presión para publicar.

1. Introduction

Previous research on EAL (English as an Additional Language) scholarly publishing has mostly been conducted in higher learning institutions concerning university academics (see for example, Lillis & Curry, 2010; Moreno et al., 2012; Mur Dueñas, 2012; Bocanegra-Valle, 2014 or Muresan & Pérez-Llantada, 2014). Much less known is what happens in a professional context, such as a hospital, where clinical doctors may be under the pressure of publication. The study to be reported in this paper will address this gap in the literature. Drawing upon interviews with eleven doctors in the Orthopedics Department of a major hospital in east China, the study aims to find out how the doctors react to the department's publication requirement, and how they position publishing in English-medium SCI journals versus publishing in national Chinese-medium journals.

2. Context

In Anglo-American medical settings, patient-care has often been cited as a major factor that takes time away from doctors' research (Goldacre et al., 1999; Lloyd et al., 2004). Similarly, in a survey conducted in 2007 involving about 2,000 Chinese doctors in six affiliated hospitals of Peking University in Beijing, "no available time" was cited as a major barrier to engaging in research activities (Hu et al., 2011). In another more recent online survey responded to by around 16,400 doctors in China, nearly 70% of the respondents cited "lacking time" as a major barrier to research (following about 80% who cited "lacking resources"); in addition, nearly 45% of the respondents believed that "one can be a good doctor without doing any research" and over 60% reported their main driving force for doing research is for promotion, compared with less than 30% saying "for the sake of improving clinical skills" (*Dingxiangyuan*, 2012). There thus seems to be a contradiction between clinical practice and research in the general perception of Chinese doctors.

However, research output, traditionally in the form of publication in national journals, has long been connected to promotion at Chinese hospitals. Domestic medical journals, numbered around 1,000 in total (about one-fourth of the total number of scientific journals in China) (Shen, Jiang & Zheng, 2010) have always been an important publication outlet for Chinese medical researchers. As of 2012, 600-odd of the medical journals, as better-regarded ones, are included in the catalog of *Zhongguo keji lunwen tongjiyuan qikan*, or the so-called *Tongjiyuan* Catalog.[1] Of these indexed medical journals, the ones published by the Chinese Medical Association (*Zhonghua Yixuehui*), commonly called *Zhonghua* journals, are given the highest regard.

Other than domestic publishing, Chinese doctors' research has been increasingly published in international journals over the past decades (Smith, 1994; Hu et al., 2011). Of the new generation of doctors, those who are able to publish internationally have typically obtained PhD in China in the recent decade[2] and work in the so-called Level 3-Grade A (*sanji jiadeng*) hospitals, the highest-graded hospitals in the country.[3] At some of these major (teaching) hospitals in China, "SCI papers" started to become a buzzword from the early 2000s, in tandem with the building of the SCI momentum in Chinese universities. For example, at the West China (*Huaxi*) Hospital, one of the largest hospitals in China, an "SCI Paper Fund" was set up in 2004 to provide monetary reward to its staff to encourage the publication of SCI papers. When the hospital was ranked the first in 2005 in terms of the number of SCI papers among all the hospitals in China, it was a great source of pride (Yi, 2006). A growing number of analytical reports of individual Level 3-Grade A hospitals' SCI output is being published in national journals, testifying to the importance attached to SCI publication at these hospitals (see Huang et al., 2006; Che et al., 2008; Zhang & Yu, 2011). In 2010, the ten most productive hospitals generated a total of 2,884 "international papers" (in the sense of being listed in SCI or Medline) (ISTIC, 2011). As publication output is the major contributor to a hospital's "achievement in scientific research" (often quantified in grade points) in evaluation contributing to the overall standing of the hospital, it is not surprising that there is a general match between the top 10 in the league of "The Best Hospitals in China in 2010" (a project undertaken by Fudan University in Shanghai) and the ten most SCI-productive hospitals in the same year (ISTIC, 2011; Sun, 2011).

In terms of "clinical research", which is presumably largely attributable to "clinician researchers" (Canadian Institutes of Health Research, 2002; Yanos

& Ziedonis, 2006), the internationally published output from China accounts for a modest 3.36% of the total output in the world during 2001-2011 (ISTIC, 2011). It can be suggested that an enormous number of clinician researchers elsewhere in the world, both in Anglophone and non-Anglophone settings, are engaged in research for publication, often in English. Finding out how these "double agent" (Yanos & Ziedonis, 2006: 249) dual-identity professionals respond to the publication pressure should rightfully fall within the domain of interest of EAP research, because the clinician researchers, especially those in non-Anglophone settings, are among the potential clients of EAP practitioners who are committed to delivering support through training in EAP academic writing and publication skills (Cargill & O'Connor, 2006; Cameron et al., 2009) or through editorial services (Burrough-Boenisch, 2006).

3. Literature background

The current importance attached to SCI publication in Chinese hospitals is not an isolated phenomenon. It exemplifies a global trend of privileging English-medium publication and of worshiping center-based citation indexes and journal ranking lists (see, among others, Salager-Meyer, 2008; Flowerdew & Li, 2009; Li & Flowerdew, 2009; Lillis & Curry, 2010; Ferguson et al., 2011; Mur Dueñas, 2012; Bocanegra-Valle, 2013). As a manifestation of the trend, at the institutional level, managerialism overrules and rewards "academics who *willingly* restrict their work to duties and activities that provide the greatest measurable, visible output for the lowest risk and least effort" (Willmott, 1995: 1024; italics in original). Academics' publication achievement in English-medium journals, frequently tied to journal impact factors, leads to the researchers as well as their institutions being rewarded in material forms (for instance, cash prize and allocation of research funds) as well as symbolic forms (for instance, promotion for individuals and higher ranking in a league table for an institution).

For individual researchers, the pressure of publishing has an emotional impact (Clinton, 1995; Graham & Stablein, 1995; Rakoff, 1995; Casanave, 2014). When one's professional welfare (for instance, career advancement and sometimes income) hinges upon one's research output, the emotional impact of the pressure can be profound, potentially engendering feelings of "uncertainty, frustration, fear, and anger" (Graham & Stablein, 1995: 117).

EAL researchers, by having to address the English language burden (Benfield & Feak, 2006; Englander, 2009) and other disadvantages such as the lack of resources in some contexts (Canagarajah, 2002), can only be even more sensitive than their English-speaking counterparts to the impact of the publication pressure. While acknowledging the feeling of pressure that may be commonly experienced, research has also demonstrated that successful EAL researchers tend to have a productive "psychological orientation" whereby "they are deeply immersed and invested in the work of science" (Keranen, Encinas & Bazerman, 2012: 387-388).

Understandably, EAL researchers would usually find it easier and less stressful to publish in first language national journals, although these journals, except for the top-tier ones, tend to be accorded a lower status than the average international English-medium journals in institutional assessment (Hanauer & Englander, 2013). Research has shown that multilingual scholars do not just publish domestically for convenience; they do so to engage in local research activities and to target the applied community of local practitioners (Petersen & Shaw, 2002; Flowerdew & Li, 2009; Li & Flowerdew, 2009; Lillis & Curry, 2010). In the case of EAL clinician researchers, who are researchers and practitioners at the same time, writing in a first language for national journals would be a natural part of their publication pursuance.

4. The present study

Following ethical clearance, between April-August 2012 I made a series of visits to the Orthopedics Department of a Level 3-Grade A hospital located in an economically well-off region in east China. This particular research site was chosen both due to the department's reputation in research (having been reported in local media) and due to accessibility facilitated through some personal connection. The hospital is affiliated to the medical school of a nearby research-based comprehensive university; it is also the teaching hospital of another few medical universities/schools in the city. My main research activities at the department included observing the doctors' daily activities, interviewing a group of doctors and a cohort of medical students, gathering documents, and attending specialist section-based research meetings. The primary dataset used for the present study consists of interviews with eleven doctors in the department for whom there is an SCI (English) publication requirement.

4.1. The publication policy at the Orthopedics Department

Under the leadership of a research-minded director, the Orthopedics Department has had a publication policy since 2007. The policy spells out a stratified publication requirement for three different groups of doctors. The first two groups (a minority in the department), older and not holding PhDs, are only required to publish in domestically indexed (*Tongjiyuan*) journals; while for a third group, made up of 16 doctors at the time of the study, SCI publication is compulsory. According to the latest version of the policy, implemented from January 2013, the third group of doctors should publish one SCI paper every year. Publishing in domestically indexed journals is also required, but regular *Tongjiyuan* papers (at the rate of two such papers a year) can be substituted by SCI or *Zhonghua* papers – that is, one SCI or *Zhonghua* paper being equivalent to two regular *Tongjiyuan* papers. In addition, publishing an SCI paper in a journal with an impact factor of above 4 is equivalent to publishing two SCI papers. Cash reward applies to over-fulfillment only and is related to the impact factor of an SCI journal in which one publishes.[4] Penalties in the forms of reduction of income, suspension from clinical practice (up to three months or longer), and not receiving endorsement for professional development opportunities overseas are imposed for not fulfilling the publication requirement.

The department's publication policy document was signed off as having been the collective decision of the department's Central Team, comprised of the director, two deputy directors, two senior doctors, and four head nurses. One of the two deputy directors, himself in the third group noted above and a participant in the present study (to be referred to as D1 below), explained that in fact he wrote the policy following the director's proposal, but having negotiated unsuccessfully with the director for a less demanding requirement for his group.[5]

4.2. Research questions

The study reported here focuses on answering two questions concerning those doctors in the Orthopedics Department who are required to publish SCI papers:

1) How do they react to the department's publication policy? and

2) How do they publish in both English and Chinese?

4.3. Participants

Eleven of the 16 doctors who are required to publish SCI papers accepted my invitation for an interview, due to their availability during my visits to the department between April-August 2012. The table in the Appendix presents a profile of these eleven participants, in terms of their age group, rank, training path, year of joining the department as staff, study/professional development experience outside mainland China, and the number of first-authored English and Chinese papers published (including accepted) during 2007-August 2012.[6]

These eleven doctors had an average age of 34 and belong to four specialist sections of the department: D1 and D4 are in two separate sections, D8 and D9 are in another section, while all the rest are in yet another section, led by the department director. As the table in the Appendix indicates, all hold a PhD degree except two who were pursuing PhD at the time of the study (D8 and D9) – in recent years, only PhD holders promising in research and publication have been hired in the department. The eleven participants published a total of 93 Chinese papers and 62 English (SCI) papers from 2007 to August 2012.[7] It should also be mentioned that (not shown in the table) at the time of the study D2 was finishing up in-service post-doc research (2009-2012), while D4, D6 and D12 were starting post-doc; in addition, eight of the participants had had the experience of attending international conferences overseas.[8] Finally, in terms of English preparation, all the participants had passed the national-level College English Test (CET) "Band 6" (compulsory for non-English majors in China studying at the Master's level) (Zheng & Cheng, 2008). Yet on the whole, the participants have only received limited training in English academic writing, typically in a one-semester course in the PhD program. They admitted that they had learned to write English papers mainly by reading journal articles and practising on their own. Other than self-studying and having received a modest amount of training in academic writing, it is likely that for most of the participants, the study/professional experience overseas or in Hong Kong as well as overseas conference attendance have had a positive effect on their academic writing ability development.

4.4. Data collection and data analysis

A topic guide (Arthur & Nazroo, 2003) which included but went beyond the two areas of focus of the present study was used for semi-structured

interviews with the individual doctors. The interviews, lasting 40-60 minutes each and recorded with a digital device, were conducted in mandarin Chinese in quiet areas of the wards where the participants work. The interview transcripts were then coded in NVivo 9. In coding the part of the data used for this study, I employed "Reacting to the publication policy" and "Fulfilling the Chinese and the English publication requirement", two phrases that respectively corresponded to the two research questions, as the first-level codes to organize data. They functioned as "bins" to hold the second-level codes which were derived directly from the transcripts. A simple coding structure was hence built in a relatively straightforward manner for the purpose of the present study. The coding structure will be reflected in the headings of the following section of findings.

5. Findings

5.1. Reacting to the publication policy

5.1.1. Feeling of pressure

For all the participants in the study, despite their heavy clinical workload, it is research and publication that constitute the main source of pressure. By reference to the publication policy, D6 said: "The assessment is based on publication, so it is the main source of pressure. Clinical work is more conventional, repetitive, and does not give you too much pressure." To D5, the policy was "quite tough" and created an obsessive concern in daily life: "With this policy, every day I would think of it – what about the paper, the progress, and what to do next?"

About half of the doctors interviewed expressed concerns to various degrees at the prospect of having to fulfill the publication requirement, especially the SCI requirement, such as by making the following observations, often mentioning the challenge of managing both clinical duties and research:

> I wonder if my laziness is increasing, I feel it's less smooth than before. Previously I could write a paper in 1-2 months; now I need 2-3 months to write one. (D7)
>
> There're other things, such as preparing for the external inspection, etc., things unrelated to research, you have to do. So the time [for research] can't be guaranteed. (D9)

D10, a junior doctor, was torn between learning clinical skills and doing research: "Research is what the director cares about; but as a doctor you must learn clinical skills first". Yet he felt he must not slack off on research, for "our director has said: 'if you're one step behind, you'll fall behind at every step'" – that is, falling a step behind could lead to falling behind in everything that is based on competition, such as promotion, award winning, grant application, and overseas professional development.

Aside from their busy clinical schedule, the participants would "squeeze time" (as they often referred to during the interviews) for research, making full use of "evening time, long holidays and weekends" (D4). D8 described how he spends evening time: "I usually go to sleep at 1am (…) With five to six hours – two hours I can check up things for operations, and three to four hours I read papers, looking for new ideas".

5.1.2. Positive outlook

Feeling of pressure was expressed by all the participants. Yet compared with those who expressed concerns about meeting the publication requirement, D2, D3, D4, D8, and D10 seemed to display more of a positive outlook and determination. D2 suggested three reasons underlying the need to do research and publish in English: "for personal survival, for personal development, and for international communication". D2's account on "personal development", in particular, was based on an interest in research:

> Doing operations day after day is not interesting; I don't want to do operations sometimes. But if you do some research, you'll let others know your work at least; you can be known for your "representative work". (D2)

D8, who has published the largest number of SCI papers since 2007 among all the participants (despite the fact that he was only just admitted into a PhD program at the time of the present study), expressed a strong dedication to research:

> Apart from performing operations, the most interesting thing is when you discover problems in performing operations, how do you deal with them, and how do you research and solve them. I think this is a very interesting process. As long as you have interest, even if you sleep one hour less every day, what difference does it make? (D8)

D4, who was once suspended from clinical practice for not fulfilling the publication requirement, but worked on four papers (including three English papers) based on finished projects during his half-year suspension and later published them all, spoke with a measure of determination: "All of us have pressure. (…) Having pressure is good; no pressure means no progress. 'Live in jeopardy, and die in coziness'."[9]

In addition, both D3 and D10 suggested they did not feel writing English papers posed major difficulty for them, and emphasized reading journal articles widely to learn the genre through self-study (Mur Dueñas, 2012). To D3, an English paper "does not have to be on something big; something with a bit of clinical significance can be turned into a very good paper"; and to D10, the focus is the research itself: "if your work is good, there should be no big problem writing up the paper".

5.1.3. Questioning and resistance

Compared with the doctors just referred to, D9, who had published a few Chinese papers but just one case report in English, had a more passive and negative attitude toward research and publishing, saying: "I will just aim to fulfill the requirement. Enjoyment? Hard to say". D11, a junior doctor, verbalized what might be also on some others' mind:

> Research can't be strictly time-tabled. For some prospective [clinical] research, you need to collect data and do quantitative analysis; basic research takes even longer time. I think finishing a certain number of papers within a certain number of years is quite difficult. (D11)

Notably, D1, who wrote the department's publication policy according to the director's instructions and tried in vain to negotiate a more lenient version of it (see note 5), was both critical of the policy and yet clear about the need to implement such a policy in view of the assessment criteria adopted at the higher level, as shown in the following interview excerpt:

> D1: Winning awards and big grants brings you much more fame than treating a few patients. Who knows you if you've cured a few patients. The policy in China is luring doctors to diverge from their professional duties. This is awful.
>
> Researcher: But you're one of the policy-makers in your department.

> D1: There's no way out. You have to cater for the demand of the Health Ministry. The evaluation of doctors has to include this part, for if you do badly on this, you lose points here and you won't get the research funds. Then you can't do anything.
>
> (Interview, August 3, 2012)

D1 claimed that his target would be to "make sure that I fulfil the requirement" and "make sure that I do not over-fulfil the requirement", implying that he enjoyed being a clinical doctor better than writing papers.

5.2. Fulfilling the Chinese and the English publication requirement

5.2.1. Prioritizing English publishing

As reflected in the publication policy, publishing in the average domestically indexed Chinese journals and publishing in SCI journals does not carry the same weight, with the latter enjoying much more prestige. Not surprisingly, the doctors would reserve the best part of their work for the latter.

Talking of publishing Chinese and English papers from the same project, several participants mentioned they believe "dual publication" of the same work in both English and Chinese is increasingly considered unacceptable; their general practice is to write the most interesting part of a project into English papers targeted for SCI journals. D6, for example, described:

> My original idea will be presented in an SCI paper; there may be branches, which I write into a Chinese paper. So there is no overlap. Patients may be similar, but they (the English paper and the Chinese paper) reflect different things. (D6)

Similarly, D10 pointed out "the more significant part of the work is written into English", and "you may convey a similar clinical message in both, but the content should not be entirely the same". D11, referring to a Chinese paper under review and his published English papers, which had all been derived from his PhD project, admitted "there was only one variable" in his Chinese paper, while the English papers involved "many more variables", with a "more comprehensive design".

5.2.2. Publishing in domestic journals

Most of the participants also publish in Chinese. "Because it is also required (in the publication policy)" tended to be an answer provided straight away by the participants when asked why they write Chinese papers and publish in national journals. In fact, a majority of the participants have published more Chinese papers than English papers, exceptions being D6, D10, and D11 who joined the department only recently, between 2009 and 2011, and D8, who actually joined the department in 2004, earlier than most of the participants (as shown in the Appendix). As relatively recent PhD graduates, the first English publications of D6, D10, and D11 constituted their fulfilment of the graduation requirement (two SCI papers being the minimum requirement commonly found in major Chinese universities nowadays for PhD students in science and medicine); they would still need time to build up their Chinese publication record. D8 was an exceptional case: he had long been working with some Japanese collaborators on projects and focusing on publishing in English only.

The participants felt it "relatively easy" to publish in national journals, except publishing in the prestigious *Zhonghua* journals. But they did not publish in Chinese journals just because it was more convenient to do so. They tended to point out that publishing domestically enables them to reach the frontline orthopedic surgeons in China: "to let others know about you" as well as "to exchange with domestic colleagues".

It seems the doctors' perception of a low level of challenge in domestic publishing is in line with their unfavorable comments about national journals: compared with overseas journals, the average national journals may adopt "a lower standard", report work that is "not rigorous enough" and is "suspicious in credibility", as they put it. These doctors do aim for a high standard for their own work as far as they can, however, as evidenced by the fact that 32 (34.4%) out of 93 of the total Chinese papers published by this cohort between 2007-August 2012 came out in *Zhonghua* journals.

6. Discussion

The foregoing section has demonstrated how a group of orthopedic surgeons at a major hospital in China respond to the publication pressure, given the installment of a publication policy in their department which requires both Chinese and English (SCI) publication but privileges the latter.

It is striking that at the Orthopedics Department featured in the study, an SCI-required doctor who has not fulfilled the publication requirement will be penalized: suspension from clinical practice for a certain period of time, income reduction, and being barred from overseas professional development. Clearly, these physicians are officially expected to be "clinician researchers". Yet unlike their Anglo-American counterparts whose research time is officially part of the workload (Canadian Institutes of Health Research, 2002; Yanos & Ziedonis, 2006), these Chinese clinicians are expected to "squeeze time" for research apart from their busy clinical schedule.

The high-stakes publication requirement has created much pressure upon the participant doctors, with a discernible emotional impact (Clinton, 1995; Graham & Stablein, 1995; Rakoff, 1995; Casanave, 2014). It is revealing that D1, who spelt out the policy as a deputy director of the department according to the director's proposal, both tried (unsuccessfully) to negotiate a less demanding requirement for his colleagues and was highly critical of the SCI mandate. Such a requirement, in his view, interferes with doctors' commitment to their primary duty – that is, treating and saving the lives of patients.

Yet despite potential resistance (whether they voiced it or not during the interviews), most of the participants in the study, especially those who displayed a positive outlook (D2, D3, D4, D8, and D10) during the interviews, seem to be "deeply immersed and invested in the work of science" (Keranen, Encinas & Bazerman, 2012: 387-388), and conscientiously play their dual roles as clinician researchers; in striving to fulfil (and over-fulfil as far as possible) the publication requirement, they not only aim for "survival", but also for "self-development" and "international communication", as articulated by D2. Indeed, in a positive light, the Chinese doctors such as the focal participants in the study have been instrumental in enhancing the visibility of China's clinical medical research in the world; at the same time, by actively participating in international publishing, they overcome potential "academic parochialism" (Pérez-Llantada, Plo & Ferguson, 2011: 23).

The participant doctors also publish domestically to meet the Chinese publication requirement. Perhaps partly because Chinese papers are easier to write, according to the participants, most of them have published more Chinese than English papers. Through national publishing the doctors aim to reach to the frontline orthopedic surgeons in the country, much like the

local- or regional-level commitment displayed by some multilingual academics in previous research (see Petersen & Shaw, 2002; Flowerdew & Li, 2009; Li & Flowerdew, 2009; Lillis & Curry, 2010). Nevertheless, the premium placed upon SCI papers in the department's publication policy is unambiguously reflected in the doctors' practices, for they would endeavor to present a "significant" (D10) and "comprehensive" (D11) picture in an English paper targeted for an SCI journal, and submit a paper of lower standard or limited scope to a national journal.

This strategy seems understandable, and may be a common practice among multilingual researchers nowadays, and at times may even be rendered necessary (for instance, with a national journal's strict page limit). On a further positive note, using different strategies to write Chinese versus English papers resulted from the same project may have helped the participants to avoid "dual publication", i.e., reporting exactly the same work in a Chinese paper and a corresponding English paper, a practice considered acceptable in some circles in China (see Wen & Gao, 2007) but noted by a few participants as increasingly unacceptable in medicine. Nevertheless, this kind of differentiation does seem to perpetuate a scenario of the best research less likely getting published in Chinese journals, and the bulk of domestically published papers being considered to be of limited value and not read or cited by those who aim to publish at the international level (Salager-Meyer, 2008; Cyranoski, 2010; "Publish or perish", 2010).[10]

In the study reported in this paper, the participant doctors are mostly in their 30s, having recently obtained or currently pursuing PhD. Importantly, they possess the English skills to write English papers (even though some clearly have a stronger track record of English publications than others), attesting to the primacy of English proficiency in gaining legitimacy in participating in international publication (Man et al., 2004; Salager-Meyer, 2008; Tietze, 2008; Moreno et al., 2012; Bocanegra-Valle, 2013 & 2014). The implementation of a "stratified" publication policy – that is, having different publication requirement for different categories of doctors, at these doctors' department is presumably effective, from the point of view of incrementing both the Chinese and the English publication output of the department. Nevertheless, one might suspect that such stratification could lead to unequal access to research resources (funding, research activities, literature databases etc.) among the doctors in the department. Ammon (2006) has insightfully pointed out that those who do not possess English skills are effectively excluded from "publishing in the most influential journals" (page

9) and from the activities of "the 'core' of their field's scientific community" (page 10). The demarcation between publishing in the indigenous language and publishing in English and the privilege conferred to the latter have far-reaching implications. What tensions are created in a local setting and what impact this has for the development of a discipline and for global knowledge-making would merit continued research.

7. Implications

In the publication policy of the participants' department, as is often the case with the assessment schemes elsewhere in China (Shao & Shen, 2011; Li, 2014) as well as in other parts of the world (Duszak & Lewkowicz, 2008; Lillis & Curry, 2010; Mur Dueñas, 2012; Muresan & Pérez-Llantada, 2014), journal impact factors feature prominently. But this convenient assessment tool does not lead to fair evaluation of researchers' work. The European Association of Science Editors (EASE) (2010: 1) issued a statement in November 2007 to address the wide-spread "inappropriate use of impact factors", proposing that:

> (…) journal impact factors are used only – and cautiously – for measuring and comparing the influence of entire journals, but not for the assessment of single papers, and certainly not for the assessment of researchers or research programmes either directly or as a surrogate.

A recent initiative of the kind is the San Francisco Declaration on Research Assessment published in May 2013 "calling for the scientific community to eliminate the role of Journal Impact Factor (JIF) in evaluating research for funding, hiring, promotion, and institutional effectiveness" (Winchester, 2013). In line with the spirit of these manifestos, there have also been calls for alternative means of evaluating researchers' work (see Lawrence, 2008). In China, for the assessment of medical doctors, there are now signs of giving more weight to clinical performance, rather than higher degrees and publications (Ha'rbin Medical University-First School of Clinical Medicine, 2012). Nevertheless, the current wide-spread importance attached to publishing in English-medium journals listed in center-based citation indexes, with the convenience it provides for assessment exercises and the overall accommodationist stance of the researchers themselves, is not likely to diminish in the near future.

As a small-scaled exploratory study relying on interviews as the primary source of data (although it was in the context of a larger project at the research site), the research reported in this paper has obvious limitations. However, it is hoped that it has shed some light upon a non-academia context of research for publication, and provided a reference point for comparison for future research of the kind conducted in other contexts. The study further indicates that more research that investigates the impact of publication policies and of course, the actual unfolding of research activities, in various EAL academic and professional settings should be conducted. With respect to Chinese researchers, such studies would help to develop a more balanced understanding of their publishing practices, in contrast to the (often unfavorable) impression that some journalistic reports (see Qiu, 2010) may create. Contextualized research heavily bears upon the equality issue, as it brings forth the voices of EAL researchers themselves and provides an empirical basis for seeking solutions to both context-bound and more universal problems in relation to the enterprise of academic publishing and knowledge-making in a globalized world.

Finally, the study also indicates that China is a "market" yet to be explored by EAP practitioners, for there is clear evidence that academic writing/publication skills training (Cargill & O'Connor, 2006; Cargill, O'Connor & Li, 2012) and editorial services (Li & Flowerdew, 2007; Lu, 2011) provided by EAP professionals are sorely needed by Chinese researchers in a great variety of institutional contexts.

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NOTES

[1] *Zhongguo keji lunwen tongjiyuan qikan* [The catalog of Chinese S&T *tongjiyuan* periodicals] is included and updated in the *Journal Citation Report for Chinese S&T Periodicals* released annually by the Institute of S&T Information of China (ISTIC). The frequency of citations, citation rate, the rate of funded papers etc. are among the criteria adopted by the ISTIC to select periodicals to be included in the *Tongjiyuan* Catalog each year.

[2] According to the statistics released by the Ministry of Education of the PRC in January 2012, 5,545 medical students graduated from PhD programs in 2011, and the expected number of PhD graduates in medicine in 2012 was 9,682 (Ministry of Education, 2012).

[3] According to the regulations of the *Yiyuan fenji guanli banfa* [Managing hospitals by levels and grades] issued by the PRC Health Ministry (1989), public hospitals in China are divided into three levels: Level 1, Level 2, and Level 3 (with ascending merit). Each level covers three grades: A, B, and C (with descending merit). Level 3 hospitals have teaching duties in the higher education sector. A Level 3-Grade A (*sanji jiadeng*) hospital, apart from being affiliated to a medical university or the medical school of a comprehensive university and thus being their teaching hospital, may also serve as a teaching hospital for other universities to which it is not officially affiliated. In 2011, China has 881 Level 3-Grade A hospitals (PRC Health Ministry, 2012).

[4] Specifically, for impact factor ≤4.0, RMB5,000 (around US$806, according to the exchange rate between RMB and US dollars at the time of the study) is rewarded; for impact factor >4.0 and ≤8.0, RMB10,000 (around US$1,612) is rewarded; and for impact factor >8.0, RMB15,000 (around US$2,418) is rewarded.

[5] Before the new policy was final, an interim version required two SCI papers every three years for the third group of doctors, as D1 proposed in negotiating with the department director. This interim version was later vetoed by the director, who insisted upon one SCI paper a year.

[6] A variety of training paths can be seen in the table in the Appendix: "B.S.M. – MMed", "MMed – PhD" and "B.S.M. – MMed – PhD" are straight entrance programs, where one usually only receives the final degree. See Schwarz, Wojtczak and Zhou (2004) for medical education in China's medical schools.

[7] In the department's annual summaries of publications, except in occasional instances, there was no indication as to whether a research paper, a case report, or a review was published. However, with reference to the interview data, it can be said with confidence that a great majority of the number of publications noted here are research papers. These English papers were almost always published in international journals; only one was published in an English-medium national SCI journal.

[8] D2, D3, D4, D5, D7 and D8, had attended conferences overseas for three to more than ten times in the past five years. Only D9, D10 and D11 had never attended a conference overseas by the time of the study.

[9] This is a famous line (Chinese *pinyin*: *Sheng yu youhuan, si yu anle*) from *Mensius*, a collection of the essays by Mensius (BC372-BC289), known for his development of the thoughts of Confucius (BC551-BC479).

[10] As an example of the consequence of important medical research published in Chinese being overlooked and not reaching an international audience, in a report entitled "Bird flu data languish in Chinese journals" and carried in *Nature* in August 2004 (Cyranoski, 2004: 955), we learned "[p]otentially alarming findings on the avian influenza epidemic currently [at that time] sweeping southeast Asia went largely unnoticed because they were published in Chinese-language journals".

Appendix: A profile of the eleven doctor participants.

Doctor	Age group	Rank	Training path	Year of joining the dep as staff	Study / professional development experience outside mainland China	Nos. of first-authored Eng & Chin papers (incl accepted) 2007-Aug 2012	
						Chinese	English
D1	41-45	Chief doctor	B.S.M.- MMed (1987-1994); in-service PhD (2006-2009)	1994	1-year clinical observation in the US	14	3
D2	36-40	Associate chief doctor	B.S.M. (1991-1995); MMed (1997-2000); PhD (2000-2003)	2003	½-year clinical observation in France	12	6
D3	36-40	Associate chief doctor	B.S.M. (1993-1996); in-service MMed (2001-2004); PhD (2004-2007)	2007	½-year clinical observation in Italy	14	5
D4	31-35	Associate chief doctor	B.S.M. (1995-2000); MMed - PhD (2000-2005)	2005	1-year study in Hong Kong during PhD; ½-year clinical observation in the UK	9	4
D5	31-35	Attending doctor	B.S.M. - MMed - PhD (1998-2007)	2007	1-year study in Hong Kong during PhD	15	9
D6	31-35	Attending doctor	B.S.M.- MMed (1999-2006); PhD (2006-2009)	2009	3-year PhD study in Hong Kong	3	6
D7	31-35	Attending doctor	B.S.M.- MMed (1997-2004); PhD (2004-2007)	2007	None	13	10
D8	31-35	Attending doctor	B.S.M. – MMed (1999-2006); in-service PhD (2012-2015)	2004	½-year clinical observation in Japan; ½ clinical observation in the US	0	12
D9	31-35	Attending doctor	B.S.M. - MMed (1997-2004); in-service PhD (2011-2014)	2004	None	11	1
D10	26-30	Resident	B.S.M. - MMed - PhD (2002-2011)	2011	None	2	4
D11	26-30	Resident	B.S.M. - MMed (2001-2008); PhD (2008-2011)	2011	3-year PhD study in Hong Kong	0	2
					Total	93	62