Substantial national attention is being directed at enhancing the competency levels of early careerist in academia and other areas of employment. Higher education's climate demands increasing levels of written output from academics which puts pressure on supervisors to want to publish with or from students' doctoral thesis as lead or co-authors. The prospects of this emanate from the well-known adage of “Publish or perish”. Supervisors, in their need to publish themselves, may consider that their names be included in the listing of authors on all publications from the students’ theses or dissertations. Many scholars would argue that publishing with your graduate student is ethical if you have written or edited the manuscript whereas others hold the opinion that supervision of the research project without actually writing or editing a manuscript is sufficient to warrant inclusion as an author. A third situation arises when a student does not attempt to publish his/her thesis or dissertation. To many faculties, this seems a loss of their efforts spent guiding the student. Some faculty even believe that if the student doesn’t publish his/her research within a specified period of time, the supervising faculty has the right to publish the research as primary author.

The purpose of this presentation is to raise a debate on graduate research supervision and joint student-supervisor authorship. I propose the position that publishing with graduate students should not be seen as payback time for the supervisory role and recommend that students’ plans for publication be discussed early in the supervisory process with agreed upon roles in manuscript preparation be clearly delineated and agreed up. In so doing, I will address a debatable issue which is emerging in most universities about supervision and mentoring in graduate studies.
INTRODUCTION

Developing or creating knowledge is the phrasebank of an academician. It is akin to the balance sheets of a banker the routes of a taxi driver, the presentation of one’s government by an ambassador, and choosing the right sermon for the right attendees by a pastor. The professoriate, traditionally and currently in a different mix, has both external and internal roles. Academic contents of both teaching and research is moderated through conferences and publication systems maintained by trans-institutional systems. It is in this context that ownership of manuscripts should identify the person or persons who have substantively participated in its conception until publication.

Academic honesty and the responsible conduct of research are necessary for maintaining public conviction in research activities and the community benefit from research discovery (Bozeman & Lee, 2003). Scientific and scholarly publications, defined as articles, abstracts, presentations at professional meetings and grant applications, provide the main vehicle to disseminate findings, thoughts, and analysis to the scientific, academic, and lay communities (University of Washington, 2009). For academic activities to contribute to the advancement of knowledge, they must be published in sufficient detail and accuracy to enable others to understand and elaborate the results. For the authors of such work, successful publication improves opportunities for academic funding and promotion while enhancing scientific and scholarly achievement and repute. At the same time, the benefits of authorship are accompanied by a number of responsibilities for the proper planning, conducting, analysis, and reporting of research, and the content and conclusions of other scholarly work.

In some universities, there is the requirement that a graduate student submit one or two manuscripts for publication for successful degree completion. This rule usually requires the submission of manuscripts but not the actual publication which is an important point of distinction. An assumption with this expectation is that supervisors should be co-authors in the event of a publication. Clarity on the role of the supervisor in student’s publications is essential. This role must be consistent with the regulations of the student’s university as well as the publisher to which the manuscript is being submitted. Furthermore, this understanding needs to occur early in the research supervision process and needs to be in print.
The supervisor

The supervisor is the person primarily responsible for giving the research student help and advice pertaining to good training in research methods, choosing a topic of appropriate scope and significance, organizing the research, composing a thesis/dissertation that meets the university’s specifications and submitting it in due time. It is the student who has direct responsibility for the production of a thesis/dissertation and its final quality (Code of Practice for Supervisors and Research Students: University of Edinburgh, 2009).
The contributor

Are persons or a person who has contributed to the manuscript, usually as supervisor, statistician, data entry clerk and others whose contribution does not warrant authorship. All contributors who do not meet the criteria for authorship should be listed in the acknowledgement section.

The Guarantor

Is the person who takes responsibility for the contents and integrity of the work as a whole (Biagioli, 2002). The guarantor indicates the essence of the corresponding author (International Committee of Medical Journal Editors, 2010:8). The guarantor plays a leading role in the research

An author

An author is an individual who has made substantial intellectual contributions to a scientific investigation and produced a written description and report. All authors should meet the criteria of authorship listed under authorship guide (International Committee of medical Journal Editors, 2010). This definition further defines an administrative relationship, acquisition of funding, collection of data, or general supervision of research as not constituting authorship. Thus, by this definition, a supervisor of the student’s research does not qualify as an author just by supervisory effort.

Authorship guide

Many journals have stipulated rules as to who qualifies as an author. Although journals differ, the majority of them agree on the three areas that qualify a person as an author. To be listed as an author, one must

- make substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; and
- draft the article or write a section of the manuscript or revise it critically for important intellectual content; and
- approve the final version to be submitted for publication.

(International Committee of medical Journal Editors, 2010; International Academy of Nursing Editors, 2011).
These guidelines are widely accepted by many journals. However, in supervision of graduate student, the supervisor would have made substantial contribution to the conception and design, acquisition of data, analysis, interpretation of data in the thesis which is different from writing a manuscript. In situations in which a thesis is being published as it is, it becomes clear that the supervisors may rightfully claim co-authorship; however, it would be inappropriate for them to expect to have their names listed as authors on a manuscript that is derived from the thesis and is conceptualized differently (Nashuka, 2013).

However, there is a differing view that, where faculty are matched to students based on a faculty member's research path and the faculty member's years of research funding and publications and expertise, the faculty more clearly belong on the dissertation publications and will more likely have contributed substantively throughout the project. For instance, when:

1. the advisor gives or guides the student to systematic reviews, literature reviews, substantive literature and guides the student to bring the review up to date for the dissertation,

2. the advisor has developed or used a conceptual framework to guide research and assists the student to modify the framework in a manner suitable for the dissertation;

3. the advisor has developed a tool or may have tested tools for the specific population or problem area and the student benefits from and can cite previous references;

4. the advisor helps the student carve out a niche or questions within the advisor's research area based on gaps in knowledge;

5. when the advisor/research team work with the student to analyze the data, create tables, prepare and submit abstracts, prepare and present poster or podium presentations;

6. when the student drafts an article with regular ongoing feedback and direction or advice from the mentor;
7. When the advisor critiques and revises or guides revision;

8. When parts of the work are funded/supported by the advisor, because the work is part of a larger whole;

9. When the student could take on a role as a team member and begin to lead their own team in this area, the advisor's role may shift to occasional mentor.

Publications are generally shared by the entire research team, this shows that they are a group of experts that work well together and bodes well when they are considered for future funding. Funders like to see the team has prior experience working together (Benedict, 2013).

AUTHORSHIP CREDIT

Like a coin, authorship has two sides: credit and responsibility. One receives professional credit from his/her publications and takes responsibility for their contents (Baigioli et al 1992:2).

Oberlander and Spencer (2006) reported that for the last five decades multi-authored publications have become more prevalent due to the increasing number of collaborative, interdisciplinary and multicenter research studies. Multi-authorship made assigning of authorship credit to become very difficult.

Authorship credit is possibly the most important and least understood area of professional life for members of the scientific community. This is because promotion, stature and productivity are often assessed by publication activity. Thus authorship has become the lifeline in the scientific market. Beyond the value of authorship to individual investigators, the assignment of individual credit to a publication implies certain ethical and scientific values that are important to the scientific ventures. These imperatives include taking full responsibility for the truth of a publication and the fair assignment credit to those who have contributed in a substantive way to its contents.
There is a need for very clear policies or procedures to determine authorship credit. Currently, many journals are now demanding that papers be prepared in a way that is consistent with the principle of authorship.

**Author list**

It is at times difficult to determine the criteria for authorship. This may be due to different traditions or practices that have been used to determine authorship credit. Some institutions have listed authors alphabetically to avoid controversy about author contribution, while others have used reverse alphabets because of the difficulties in assigning authorship. (Smith 1997) proposed a concept of contributorship where each person’s contribution was listed, this convention has not found popularity with most authors.

The most popular convention adopted is that of lead or main author as discussed below:

**Lead author**

As a practical matter in the case of publications with multiple authors, one author should be designated as the lead author. The lead author assumes overall responsibility for the manuscript, and also often serves as the managerial and corresponding author, as well as providing a significant contribution to the research effort. A lead author is not necessarily the principal investigator or project leader. The lead author is responsible for:

- **Authorship:** Including as co-authors all and only those individuals who meet the authorship criteria set forth in the journal policy.

- **Approval:** Providing the draft of the manuscript to each individual contributing author for review and consent for authorship. The lead author should obtain from all coauthors their agreement to be designated as such and their approval of the manuscript. A journal may have specific requirements governing author review and consent, which must be followed.

- **Integrity:** The lead author is responsible for the integrity of the work as a whole, and ensuring that reasonable care and effort has been taken to determine that all the data are complete, accurate, and reasonably interpreted.
Co-authors

All co-authors of a publication are responsible for:

- **Authorship**: By providing consent to authorship to the lead author, co-authors acknowledge that they meet the authorship criteria set forth in the journal policy. A coauthor should have participated sufficiently in the work to take responsibility for appropriate portions of the content.
- **Approval**: By providing consent to authorship to the lead author, co-authors are acknowledging that they have reviewed and approved the manuscript.
- **Integrity**: Each co-author is responsible for the content of all appropriate portions of the manuscript, including the integrity of any applicable

Acknowledgments

Individuals who may have made some contribution to a publication, but who do not meet the criteria for authorship, such as supervisors, staff, editorial assistants, medical writers, or other individuals, can provide a valuable contribution to the writing and editing of publications. Since those contributions do not meet the criteria for authorship, those individuals should be listed in an acknowledgement and/or contributor ship section of the work.

Unacceptable authorship

There are various names given to unacceptable authorship such as guest gift and ghost authors as explained in Table 1.
Table 1: Unacceptable authorship

<table>
<thead>
<tr>
<th>Type of unacceptable authorship attribution</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guest (honorary, courtesy, or prestige)</td>
<td>Granting authorship out of appreciation for an individual (supervisor/student) or granting authorship out of the belief that the guest author will increase the likelihood of publication</td>
</tr>
<tr>
<td>Gift</td>
<td>Granting authorship out of a sense of obligation such as when a graduate includes a supervisor’s name/s or tribute with the anticipated benefit to a person who has not contributed to the work</td>
</tr>
<tr>
<td>Ghost</td>
<td>Failure to identify as an author someone who has made substantial contributions to the writing of the manuscript or having a manuscript written by an unnamed person but listing others as authors.</td>
</tr>
<tr>
<td>Mutual admiration</td>
<td>Occurs when two or more researchers agree to list each others names on their own papers despite the others minimal involvement</td>
</tr>
</tbody>
</table>

**EXPERIENCES FROM THE FIELD**

Conversations were held with three graduate students and three supervisors to elicit their thoughts.

Table 2: Vignettes from graduate students

<table>
<thead>
<tr>
<th>Student pseudonyms</th>
<th>Student perspectives</th>
<th>Type of authorship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grace</td>
<td>Grace: Is now working for a research company. After completing her studies she never cared to publish from her dissertation and instead published with her co-workers on her current research for the company? The studies that they did mostly as a fourth or fifth author. Whilst searching the Internet for one of their publications, she came across an article from her doctoral thesis with her supervisor as first author.</td>
<td>Gift authorship for Grace Unethical practice for supervisor</td>
</tr>
<tr>
<td>Student pseudonyms</td>
<td>Student perspectives</td>
<td>Type of authorship</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Grace</td>
<td>author; his co-supervisor as second author and herself as third author. Grace was annoyed and called her supervisor and the supervisor was not apologetic at all as Grace has not published her studies.</td>
<td>Gift authorship if Emmanuel paste their names Underserved authorship</td>
</tr>
<tr>
<td>Emmanuel</td>
<td>After completing his doctoral studies Emanuel worked for the governmental in a non-research related section, so publishing was not “very important” for him. His supervisor called him and asked for permission to publish from his studies with the student only acknowledged as a data collector or alternatively a student to publish and paste supervisor as second author.</td>
<td>Underserved authorship</td>
</tr>
<tr>
<td>Patricia</td>
<td>Patricia was expected to have submitted two manuscripts for possible publication before completion of her doctoral studies. She did that and one of them was accepted and the other one was not. In the accepted manuscript she included her supervisor and co-supervisor as second and third author respectively even though they did not contribute to the writing of the manuscript. The second manuscript was rejected. Patricia received her degree and became a faculty member at another university. After her 2nd manuscript was rejected, Patricia sent it to the supervisor and co-supervisor. They both did not respond. Three years later Patricia has been mentored by a colleague in her new university. Patricia resumed re-writing the article with the mentor as co-author. The paper was then published. Patricia was contacted by her former supervisor who was very angry at not being named as co-author and who threatened to withdraw Patricia’s doctoral degree.</td>
<td>Underserved authorship</td>
</tr>
</tbody>
</table>
PUBLISHING WITH GRADUATE STUDENTS

Supervisors who plan to publish with their students are confronted with numerous issues about authorship for which there is little guidance (Bliss 2002). According to Bliss there is what she called “rogue authors” who are supervisors who want students to list their names without any contribution to the manuscript and these are the supervisors who need to be censured.

The research thesis is the capstone of the doctoral candidature (Winston & Filed, 2003) and ordinarily contains material that should be submitted for publication. However, publishing is a skill that develops overtime. Authors do not start writing academic manuscripts from nothing. They need to be mentored (Stoilesvcu & McDougall, 2010). Having a thesis to use a basis for a manuscript does not mean a graduate student is ready to publish, it means he/she still needs a mentor who will help turn parts of the thesis into one or more publishable manuscripts. This mentor could be one’s supervisor or a trusted colleague in academia

Two themes emerged from the conversations with graduate students. Authorial voice and underserved authorship credit came very clear from conversations with students. Both these themes are common in literature and need to be explored further.

**Authorial voice**

Authorial voice is defined as an individual trait that writers can discover from within themselves through practices of expressive writing (Zhao 2012). Voice in a written text is hence regarded as the expression of the essential individuality of a particular writer (Stewart 1992:283). Therefore, for students who out of gratitude list their supervisors’ names or esteemed colleagues names as co-authors know that those people did not have a voice in that written text.

The first scenario I described about the graduate named Grace demonstrates lack of authorial voice by a graduate student in which work done was published without her consent and knowledge. According to Marckant, Anastacia and Miller (2012:90), government interventions to measure quality and quantity of research-based institutions has added pressure for academics to publish and hence scenarios such as Grace’s. In private institutions, the same pressure may also prevail. In many US universities, there is a 7 year rule known as “Up or Out”. By the 6th year of employment, one must “go up” for tenure and promotion, both of which are largely based on publications and grant
funding. If one fails to receive tenure, they are “out”, meaning they are given a final one year appointment.

Grace’s scenario does not agree well with ethics and professionalism. It clearly indicates that the student was not supervised into writing manuscripts during her graduate supervision. Kwan (2007) reported that publishing requires complex skills including discursive competencies, decontextualizing, reframing, trimming and condensing the thesis into a journal article. In short, writing is a learned skill and supervisors need to impart this skill during their supervision.

Another differing view about Grace’s situation is that she should have been motivated to publish her findings, and where supervisors feel compelled to publish the student’s thesis, they should do so in consultation with the student (Oberlander & Spencer, 2008).

Underserved authorship

The Merriam-Webster online dictionary defines an author as one who creates. Authorship involves creation of knowledge (Kressel & Dixon 2011). Underserved author is one who did not create or meet the internationally acclaimed criteria for an author as discussed under authorship guide. In a study by Sloane (1996), a survey of 275 major articles published in the American Journal of Roentgenology found that 17% of people listed as authors were really undeserving authors. In 2013, the American Journal of Nursing did a survey and the results show that at least 45% of those who are listed as authors are undeserving authors.

The scenario describing the experience of Patricia is a clear case of underserved authorship. The supervisors for the first article had their names listed as co-authors which was unethical for the student to do and for the supervisors to accept. It also does not help a student to find her/his name in an article as happened with Emmanuel because he has not learned from writing an article and it may also demonstrate that the supervisor had insufficient studies of his/her own from which to write. Or perhaps the supervisor felt that Emanuel’s study was so rich that the supervisor needed to publish it. Either way, it does not say much about both the supervisor and the student in academic writing. Geelhoed, Phillips, Fischer, Shpungin and Gong (2007:96) referred to the American Psychological Association (APA) position that publication credit should go to deserving authors who have contributed substantially to the authorship of an article and not merely supervision of the research. It is interesting that most articles I read do not
mention supervision as deserving of authorship but contribution to the writing of an article as a supervisor does contribute to authorship.

Undeserving authorship has been in existence since publishing started. For instance, Holaday and Yost (1995b) and Goodyear et al (1992) did a survey on experiences with ethical dilemmas in the publication process and revealed incidents of faculty advisors demanding and students offering faculty underserved authorship credit to students and students failing to receive authorship credit. Their study resonates well with the three students’ perspectives discussed.

It is my view that even authorship credit given to students as first authors without contributing to the inception of the article, its writing and editing is suicidal for the student. Authorship credit should be explored further. Students, especially doctoral students, should be mentored into writing publishable articles.

Concerns about these ethical violations gave rise to a demand of authorship guidelines that stipulates how and when an author should be included in the manuscript (Wagner et al 1994). Some accredited peer review journals such as the International Nursing Review and the Journal of Psychiatric Mental Health Nursing are now demanding explicitly the contributions of all authors. Nevertheless, given the guidelines, some supervisors still maintain that from supervision alone they contributed to the inception of an article which is also open to debate and is very doubtful. It must be made clear that having been a research supervisor does not bestow on the supervisor forever partial ownership of the research including forever co-authorship. Guidelines must be in place and must be very clear that the “forever syndrome” must be curtailed.

The arguments above demand that a closer look at the culture of publishing and the supervisor’s role in mentoring for publication should be clearly delineated. This will prevent possible exploitation by supervisors, as Costa and Gatz (1992) clearly stated, graduate students enter relationships of unequal power with supervisors creating possibility for exploitation.

Conversations with supervisors

Table 3 shows some conversations held with three supervisors
Table 3: Supervisors’ perspectives

<table>
<thead>
<tr>
<th>Supervisor pseudonym</th>
<th>Supervisors’ Remarks on authorship</th>
<th>Remarks on authorship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abel</td>
<td>I told my student that I have published two articles with him as his supervisor and put him as first author and since he has not done anything I will publish the third article alone from his study.</td>
<td>Power differentials between students and supervisors</td>
</tr>
<tr>
<td>Mable</td>
<td>I worked hard in this study (as supervisor) all the articles she writes must bear my name and that of co-supervisor is according to our university policy.</td>
<td>Honorary authorship</td>
</tr>
<tr>
<td>Zeneth</td>
<td>If I do not write these articles with my students the good data that they have will not be known and so I believe that as supervisors we owe it to the public to publish with them and even present their work at conferences.</td>
<td>Diminished output</td>
</tr>
</tbody>
</table>

Three important themes emerged from conversations with supervisors as diminished output, doctoral research as a major source of knowledge in universities and power differential between students and supervisors.

**Diminished output**

Some of the supervisors believed that if they do not publish with students there will be diminished output as supervisors do not have the “time” to do their own studies and hence the diminished output (Conversation with Zenith). This is cited as one of the reasons why academics want to publish students’ work or have themselves included as co-authors in their students’ publications.

**Doctoral research as a major source of knowledge**

Doctoral research is a major source of new knowledge production in most universities (Kamler, 2008) this is also supported by some of the conversations held with supervisors.
Publication is not a privilege, it is a responsibility. The failure to publish data, in my view, is an ethical breach! We ask people (or use animals) to answer research questions. We tell them the purpose of the study, what they will be adding to science, we ask them to donate their time to help the investigator learn something that in the future may help mankind, the research process has taken something (time, spirit, faith) from the participant with the tacit promise of having an impact on the greater good. In some cases the participants may be old and they believe they are making a final contribution to humanity, participants may never before have had an impact on a greater good and may feel pride in having contributed, patients whose lives are limited, believe that despite the additional pain and suffering their participation may be able to change the outcome for someone else. Each of these voices deserves to be heard. This is true even if the results of the study are not significant. (Benedict, 2013)

**Power differentials between students and supervisors**

Graduate students have very little experience as researchers and this opens them up for exploitation (Costa & Gatz 1992). There exists an inherent unevenness in power and authority between supervisors and graduate students (Fine & Kurdek, 1993). Thus the potential for faculty to abuse power in ways that exploits students, like claiming credit for the work done has been reported in research (Kwok, 2005). When students fail to advocate fully their own interests they may find themselves shortchanged in respect of authorship credit as it seems to be the case with supervisor Abel.

**Recommendations for ethical joint publications**

Mentoring towards publication should be a routine part of doctoral studies. Publishing research results (Green, Hutchison & Sra 1992; Leonard, Becker & Coate, 2004) from doctoral dissertations increases the institutional output and universities should support such publications through coherent policies. Currently, university policies are often unclear, unknown, and un-adhered to. Some barely or not at all mention submitting works for publication.

Teaching writing skills may also be another strategy that could be used to improve doctoral education and hence improved output. Doctoral level writing is viewed as a discursive social practice (Faircloth, 1992). Writing skills would give doctoral students the confidence they need to write for publication. If doctoral students are urged to publish their work in stages during their formative years, they are more likely to do so as
informed professionals in their chosen field of practice. It is acknowledged that mentoring towards publication is not often a routine part of the process of doctoral education in most universities (Kamler, 2008).

Teaching writing skills should not be viewed as extra work by supervisors, as it could be incorporated into the supervision. For instance, when a doctoral student reviews the literature, that chapter could be published as literature review. Or when a student collect data and confronts some difficulties then issues surrounding data collection using whatever method the student has chosen could be a manuscript deserving of the supervisor as co-author as he/she will have taken active role.

Clear university policies on joint student/supervisor publication are fundamental. Such policies must clearly stipulate that a student should have published, with the assistance of supervisors articles in peer reviewed journals. If this policy is clear then it would be known that a student may not graduate without a publication. Professional development related to authorship issues could prevent inadvertent academic dishonesty and conflict among the supervisor and the graduate student. Universities should publicly disseminate authorship guidelines and include them on the orientation for incoming faculty and students. Such guidelines should also endorse the student to be first author for their dissertations.

Authorship should be based on relative contribution. Fine and Kurdek (1993) argue that giving honorary authorship to a student who has not conceptualized an article falsely represent their scholarly expertise and provide them with an unfair professional advantage. On the other hand assigning co-authorship to a supervisor who did not contribute to the manuscript is an unfair representation of their scholarly work.

CONCLUSION

Intellectual honesty is an essential element of scientific integrity, and this extends to the need for complete truthfulness and lucidity in representing contributions to research reports and other scientific writing. The contributions of colleagues and collaborators need to be recognized in all scientific publications, but authorship must be accepted and/or awarded on the basis of substantive contributions to an article and the ability of its authors to take public responsibility for its contents. Decisions regarding authorship should be seen as part of a process that begins from the development of a publication plan and ends with the final revision of an accepted paper. Such a process is likely to
prevent publication misconduct as well as misunderstandings and conflicts. For as long as authorship credit continues to be seen as the *dot of academia*, credit and responsibility should be valued.

Transition from being a doctoral student with a thesis to a publisher of what is in the thesis creates personal and professional difficulties that demand that a person needs to be guided into publishing. Experienced mentors who may not necessarily be doctoral supervisors are encouraged to take that role. In the end there is no honor in honorary authorship.
REFERENCES


