Analysing Memoir Topic Trends in the Social and Political Sciences in the Faculty of Arts, Media and Social Sciences at NUR.

S. Wiehler (1), Faculty of Arts, Media and Social Sciences, National University of Rwanda, email: swiehler@nur.ac.rw
(2) Ms. Fiona Umutoni, National University of Rwanda, email: fiona.umutoni4@gmail.com

Abstract

This research analyzes the frequency of undergraduate research topics selected as "memoirs" by 4th-year students in the social and political science departments in the Faculty of Arts, Media and Social Sciences (FAMSS) at the National University of Rwanda. Its objective was to ascertain (a) if multiple instances of near-identical topics form identifiable trends, and (b) what convincing explanations might be identified as causal to these topic trends.

In total, 1335 memoirs submitted between 1997 and 2011 were analyzed. In this study it was hypothesized that certain research topics are preferred by NUR students in different years, depending on the national popularity of specific social, political and developmental issues, and that these preferences change over time.

The researcher used unix-based grep for string analysis of memoir topics, which were then aggregated into frequency histograms and converted the data to N-maps for visualization of the change over time in the respective topics. The research findings indicate that memoir topics follow trends in "popularity" for social research: they rise, remain steady, or fall, depending on exogenous social stimuli, and perhaps for endogenous reasons too.

The research concluded that changing preferences for research topics by students can be linked to national or regional events. The causal mechanism evolves from popular discussion in the media, leading to student interest, and eventually to student-selected research topics. The most obvious examples were government policies and programs which attracted significant student attention, causing increased topic frequency, followed by decline as the issue decreased in popularity.

The research also identified the tendency for students to copy their research topic from memoirs existing in the Faculty Library. While the issue of plagiarism was not specifically addressed by this study, it is possible that the N-map trends portrayed by this research emerge in part because some students have used past memoirs as templates, possibly including indirect or direct copying. For this reason, the research concluded that while the majority of topic trending observed in the N-grams may be explainable the popularity of national issues, copy-cat research and outright plagiarism could also play a role in these trending phenomena. Further research using full-text soft copies (not available for pre-2009 topics) is suggested.

Recommendations include that students should be guided towards unexplored areas of new research and actively discouraged from replicating the research of previous year's memoirs; that the memoir room within the Faculty Library serves little purpose other than to encourage copying and plagiarism and should therefore be closed until a plan for its usefulness can be envisioned; that the teaching of Research Methodology in the social and political sciences is inadequately preparing students for the challenges of actual research (which pushes them to consider plagiarism as a pathway to success) and that NUR should systematize and upgrade its present rudimentary plagiarism detection measures and to publicize this to all students so as to discourage topic replication, copying and outright plagiarism.

Keywords: *N-gram, plagiarism, research methods, National University of Rwanda, memoir topics*

Introduction

The National University of Rwanda (NUR) was opened on November 3, 1963 as Rwanda's sole institution of higher learning. From 49 students in its first year, NUR had grown to around 3,000 students in 1993. The Genocide the following year resulted in the slaughter of 586 students and staff members, and the closure of the university. It was reopened in March 1995 with 3,261 students enrolled. Currently, NUR offers 39 undergraduate programs and 28 postgraduate programs. It is the largest University in Rwanda, with more than 12,000 students representing 1/3 of total student population in public higher learning institutions in Rwanda and nearly 1/5 of the total higher education students in Rwanda. Since reopening, NUR has graduated 24,378 students with bachelor's degrees, and 555 with master's degrees.

The departments that today comprise the Faculty of Arts, Media and Social Sciences (FAMSS) were originally part of SSEG (Sciences Sociales,

Economiques et Gestion). In 2005, SSEG was changed to SSPA (Sciences Sociales, Politiques et Administratives), and then reorganized in its present form in 2009 as a merger of the faculties of Arts and Humanities, and Social, Political and Administrative Sciences, together with the School of Journalism and Communication. FAMSS includes the departments of Journalism and Communication, Social Sciences, History and Politics and Languages, Linguistics and Literature. Because of these changing configurations and subsequent administrative record-keeping confusion, this research was challenged to determine the exact student numbers. Our best estimate is that since 1997 at least 1335 students have graduated with Social Science degrees from the National University of Rwanda. Each graduating student completed a Memoir as part of the Bachelor's Degree requirement.

Statement of the Problem

Every year, all fourth year NUR students are required to write a dissertation of original research, commonly referred to using the French term *memoir*. Research topics are selected by each student, who is then paired with a supervising lecturer. While there is scope for topic revision, most supervisors focus on the proposal writing, the questionnaire construction, and ensuring that the final dissertation follows the expected format and represents the student's best effort.

As in any tertiary institution with dissertational graduation requirements, a significant percentage of students are probably complying with the process simply to ensure they receive their qualification, rather than to engage in the formulation of new knowledge. While such a recognition does not undermine the usefulness of the memoir as the culminating academic endeavor of the undergraduate experience, it does imply that the process of formulating research ideas might not emerge from any compelling intellectual curiosity on the part of the student, as much as the instrumentalisation of institutional prerequisites.

Even a cursory inspection of the collected memoirs in the Memoir Room in the Social and Political Sciences Library at FAMSS reveals a large number of topics that appear to be similar or virtually identical. The reoccurrence of certain topics is often explainable. For example since the Genocide, many research topics have focused on issues related to reconciliation and rebuilding social cohesion. Newly formulated government policies on issues like gender, family planning, health insurance and land consolidation are likewise obvious subjects of interest to many students. Such topic clustering is predictable and wholly explicable, and since it emerges from individual-level student curiosity and a desire to understand the social and political

impact of such policies, should not result in research replication so much as topic similarity. Additionally, there are reoccurring words and phrases that are consequent to the research discipline, such as 'social' within the social sciences, 'rural' within development studies, and 'policy analysis' within the political sciences.

Nevertheless, there is also anecdotal evidence from students and lecturers alike, of direct and indirect copying of existing memoir research, with reports ranging from the adaption of a memoir's research idea and data collection process to a similar place or focus (which does not necessarily constitute plagiarism) to the outright, sentence-by-sentence reproduction of entire chapters from existing memoirs with the purpose of presenting this as the student's original work (which undoubtedly is plagiarism).

This research examines the topic titles of the memoirs in the Social and Political Science Library at FAMMS, for measurable trends in topic choice, and then attempts to explain these trends.

It seeks to answer the following research questions: (a) Do these topic choices follow discernible frequency trends? and (b) How can such repeated topic choices best be explained?
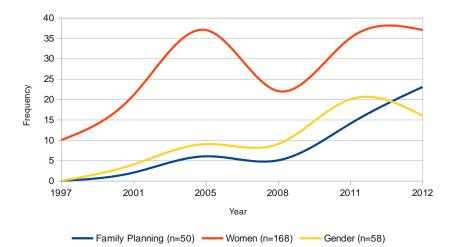
Data collection

This research sampled phrases and topic concepts in 1335 memoirs submitted to the Social and Political Sciences at FAMMS, dating back to 1997. Memoir titles are examined for measurable trends in topic choice, and then explanations are sought to explain these trends.

Memoir topics that appear many times were selected and a trend-line was created using Grep to form the histograms, which were then smoothed using b-splines chart modeling in Calc, and presented in the form of N-maps as an easily accessible way to demonstrate the changing trends in topic choice for Memoirs among undergraduate students in the Faculty of Arts, Media and Social Sciences.

Findings

The findings presented below are representative of the changing trends this research set out to identify and explain. Multiple N-grams are combined into N-maps, aggregated into topic groups for comparative analysis.

Figure 1: Family Planning, Women and Gender

N-Maps for "Family Planning", "Women" and "Gender"

Family Planning (n=50) — Women (n=168) — Gender (n=58)

Topics centering on a locus of women's issues, gender and family planning started to gain attention in the year 2000 and as a focus for research interest, and have been rising steadily virtually every year since. Prior to 1994, the government of Rwanda put little emphasis on family planning since the Rwandans traditionally placed value on large families, and the anti-family planning stance of the Catholic church meaning that little could be achieved in this area. By the year 2000, Rwanda was one of the most densely populated countries in Africa, with total fertility rates that rivaled the world's highest, so a family planning policy was implemented. Government pronouncements and media discussion stimulated student interest in the subject, resulting in a steady rise in memoirs focused on this topic. Gender has likewise experiences a steady rise in research frequency, with perhaps a slight decrease in 2012, while memoir titles employing the word 'women' rose rapidly to a high in 2005, and then declined before increasing again in the past two years.

Student choice of the topic "HIV/AIDS" (Figure 2) started rising in the year 2000 and peaked in 2005. Such fluctuations are possibly the result of media attempts to sensitise the population on this issue, and the issue fatigue that inevitably sets once an issue has been widely discussed. The topic of Health started rising from the year 2002. It's rapid gain in popularity can be explained by understanding the government's focus on health-related issues

such as malaria control, United Nations MDG goals, and "Mutuelle" nation-wide health insurance.
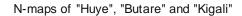
Figure 2: HIV/AIDS and Health

N-maps of "HIV/AIDS" and "Health"

Frequencies

The n-map in *Figure 3* shows the frequency of student choice of the topics on "Huye", "Butare" and "Kigali". The comparison of Huye/Butare is predictable as represents an official name-change of an existing town. As the use of the new name increases it replaces the old. Kigali, on the other hand, decreases steadily over the years, demonstrating that less research focusing on the capital city is now being carried out, perhaps because of increased emphasis over the past decade on rural issues of poverty reduction, reconciliation and nation-building.

Figure 3: Huye, Butare and Kigali

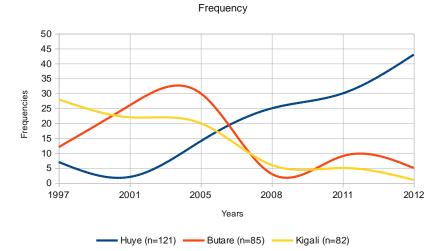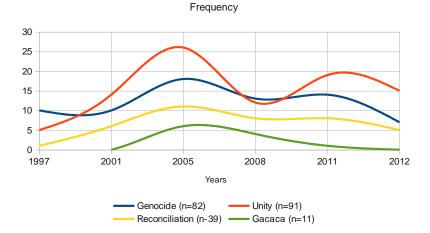N-maps of "Huye", "Butare" and "Kigali"

Frequency

Huye (n=121)   Butare (n=85)   Kigali (n=82)

Figure 4: Genocide, Unity, Reconciliation and Gacaca

N-Maps of "Genocide", "Unity", "Reconciliation", and "Gacaca"

Frequency

Genocide (n=82)   Unity (n=91)
Reconciliation (n-39)   Gacaca (n=11)

The n-map in *Figure 4*, above, shows the annual frequency of students' choice of the topics on "Genocide", "Unity", "Reconciliation" and "Gacaca". Each of these topics peaks around 2005, and decreases in the years that

follow, except for "unity" which regained some student interest in recent years. These changing trends can be explained by understanding government initiatives over the years, and recognising that the Gacaca village-level judicial process engaged the nation's attention resulting in motivation for social science research on these topics, but ended in 2010, leading to a significant decline in student interest and research focus.

Figure 5: Development, NGO's, Cooperatives and Poverty

N-maps of "Development", "NGO's", "Cooperatives" and "Poverty"
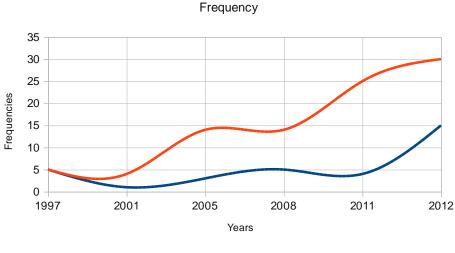

Figure 5 demonstrates that "Development" is a topic of continued interest to Social and Political researchers. For a developing country like Rwanda, this concept will retain fluctuating yet significant research interest. The topic of NGOs on the other hand, did not draw student attention as much as the research anticipated. This is perhaps explainable by understanding that much NGO research focuses on a specific, named organisation, and thus escapes term-related searches.

Cooperatives also have a widely fluctuating trend. From zero preference in the 1990's, students started to gain interest in the year 2002, but then dropping several years until the topic again gained interest around 2010 resulting from recent government initiatives to promote cooperatives.

The "Poverty" trend has been rising since the 1990's. For a developing country like Rwanda, poverty is among the characteristics that the social and political sciences tend to research. Some of this fluctuation might be policy-related (for instance, EPDRS and Vision20-20) but small fluctuations can emerge as a result of random probability.

Figure 6: Street children and Children

N-MAPS of "Street children" and "Children"

Frequency

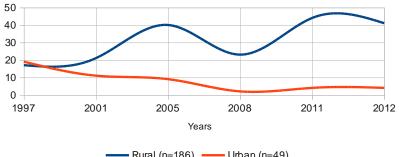Street children (n=33)   Children (n=92)

After some initial interest in the 1990's, students showed relatively little interest in the topic of street children. The trend for "street children" started rising in the mid-2000s and increases steeply in recent years. To disaggregate this topic from other child-related topics, the research added an N-map for the term "children". Since the second term includes the first, its frequency must be interpreted as indicating the additional popularity of research including children, such as education, child nutrition and child mortality. Relative to street children, child-related topics are considerably more frequent.

The n-map in Figure 7, below, shows the yearly frequency of students' choice of the topics related to "rural" and "urban" issues. It is evident how the "rural" trend increases and the "urban" trend decreases to almost zero from a high point in1997. This can be the result of the government's focus on rural areas, including agriculture, cooperatives, land consolidation and service provision. It is quite natural for Rwandan students to focus their research efforts on such relevant and nationally pertinent topics. The 'rural' trend continues increasing even to the most recent year, 2012, suggesting that it might continue as a topic of social science research as Rwanda continues to focus its efforts on development and progress.

Figure 7: Rural and Urban

N-maps of "Rural" and "Urban"
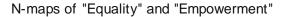
Frequency

Rural (n=186)   Urban (n=49)

The n-map in *Figure 8* shows the yearly frequency of students' choice of the topics on "Equality" and "Empowerment". From a common low in the late 1990's, student interest in these topics increased remarkably, demonstrating the importance of these issues nationally and to the world-view of the youth of Rwanda.

Figure 8: Equality and Empowerment

N-maps of "Equality" and "Empowerment"

Frequency

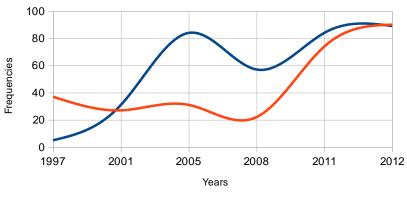Equality (n=14)   Empowerment (n=23)

Most equality-related research refers to gender equality which has become a popular topic for research since around 2006. The government of Rwanda initiated its gender policy in 2003 by which women were supposed to enjoy equal rights as men. Thus equality gained interest of the Social and Political Science researchers at NUR who always seek to understand such social developments and how this equality impact social and political developments.

Empowerment is a broader term, common in several areas of social and development research. The UN has promoted empowerment issues for the past two decades in its attempts to bring educational access to boys and girls equally, and to motivate family planning services, and various village-level and leadership development issues.

Figure 9: ICT and Development

N-maps of "ICT" and "Development"

Frequency

ICT (n=350)   Development (n=266)

The n-map in *Figure 9* shows that the topic of "ICT" began to emerge as an important locus of social science research in the late 1990's and the trend rose sharply, reaching a high point in 2005, perhaps connected to Vision20-20 knowledge-based future. Both ICT and Development declined in frequency around 2008, but have since increased to their highest. Recently Rwanda was named East Africa's number one ICT nation by the United Nations Conference on Trade and Development (UNCTAD), having benefited from ICT-based investments by lucrative international players.

Conclusion and Recommendations

The data on NUR 4th-year student's topic choice for memoirs in the Social and Political Sciences shows distinctive trends in which certain choices of research topic rise or decline in popularity. The premise of this research was that undergraduate researchers choose their research topics based on some calculus of topical interest and convenience for data collection, resulting in changing trends in popularity. The research recognizes the possibility that some students might chose certain research topics based on an existing Memoir in the faculty library, which they then set out to copy.

While taking an existing research topic and adapting it for one's own research does not necessarily constitute dubious ethical behavior, anecdotal instances of outright plagiarism do surface in discussions with student alumni and professorial staff. The issue has been raised in department and faculty meetings to universal condemnation, but appears to persist as a survival strategy for students lacking confidence, language skills, determination, and vigilant oversight by their supervisors backed by a re-enforceable university-wide anti-plagiarism strategy.

This research therefore concludes that a complete explanation of the trends in topic choice graphically represented in the N-grams in this study, must include the following three components:
1. Legitimate trending changes in interest focus, which are explainable with the social, political and developmental context in which students make their Memoir topic choice,
2. Idea replication: taking the research concept of an existing Memoir, and using the ideas and concepts as the foundation for new, but similarly focused research, and
3. Plagiarism, where one student copies directly or indirectly the concepts, methods, data collection strategies, analytical techniques, and even the typed words, of an existing Memoir, and then calls it their own research.

While this study did not set out to identify plagiarism (which is a corruptive form of cheating), these points lead directly to the recommendation that plagiarism detection must be strengthened by the Faculty and the National University in order to detect, punish and thereby discourage plagiarism.

The Faculty is also encouraged to consider temporarily closing the Memoir room in the Social Science Library as it serves little purpose other than to permit replication and copying. Once the issue of plagiarism has been addressed and students understand the severe consequences of this behaviour

and the seriousness with which other academic institutions approach this issue, its reopening can be envisioned and carefully supervised.

It is also an urgent necessity to improve the teaching, supervision and accomplishment of social science research at NUR. At present students take a one-semester course in Research Methodology in the second semester of their third year. Expanding this to a two-semester course is an option that could be beneficial, as is the need to refocus supervision on the actual data collection, rather than on spelling and punctuation in the research proposal or the final memoir.

In the final analysis, good social science research entails process and originality, as well as language skills and an overall grasp of the social science issues at hand. Fortunately, Rwanda is in a state of rapid social change, providing multiple opportunities for excellent, original research. It is the observation of this research, as well as its expectation, that the social sciences have a significant contribution to make to the development of Rwanda and to measuring and ameliorating the many social issues that must be addressed if the nation is to attain its goal of a prosperous and peaceful future.

1. Bibliography

3. Bao, Jun-Peng; Malcolm, James A. (2006), "Text similarity in academic conference papers", 2nd International Plagiarism Conference Proceedings, Northumbria University Press
4. Cavnar, W. B. and Trenkle J. M. (1994) N-gram-based text categorization, Proceedings of SDAIR- 94, 3rd Annual Symposium on Document Analysis and Information Retrieval
5. Clarke, Roger (2006) "Plagiarism by academics: More complex than it seems". Journal of the Association for Information Systems
6. Monostori, Krisztián; Zaslavsky, Arkady; Schmidt, Heinz (2000), "Document Overlap Detection System for Distributed Digital Libraries" Proceedings of the fifth ACM conference on Digital libraries, ACM, pp. 226–227
7. Stein, Benno (2005), Fuzzy- Fingerprints for Text-Based Information Retrieval", Proceedings of the I-KNOW-05, 5th International Conference on Knowledge Management, Graz, Austria, Springer, Know-Center, pp. 572–579