

# Postgraduate Student Throughput at the University of Ghana

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## Abstract

A common thread in contemporary research on student throughput trends at higher education institutions refers to the ways in which the various stakeholders at institution of higher learning institutions take important decisions to ensure a better completion rate (throughput) among postgraduate students. To promote further appreciation of throughput among postgraduate students, this paper, based on an empirical study among a number of postgraduate students at the University of Ghana, reviews some trends and possible factors that might play a role in postgraduate student throughput at this university. The outcomes of this study show that student throughput at this institution has decreased over time due to financial difficulties; personal challenges; less opportunity for students to get study leave from their employers; and so forth. The paper concludes with recommendations to improve student throughput at postgraduate level. Among these recommendations is that they go for academic counselling before enrolling for postgraduate studies; and that a postgraduate fund be established to assist them financially.

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**Keywords:** Postgraduate. Throughput. Ghana

## Introduction

There is a growing concern at institutions of higher learning worldwide about issues such as the quality of postgraduate training; the length of time it takes for postgraduate students to complete their studies; the success rate of postgraduate students; and the high percentage of postgraduate students who terminate their studies and drop out of the system before graduation. In view of these and other similar trends throughout the world, studies on the duration of postgraduate studies and concerns about shortening the time students take to complete their postgraduate studies have become matters of utmost importance, not only to students and managers of higher education institutions, but also to governments, funders of postgraduate studies and other stakeholders in higher education. Several of

these studies expressed concerns about problems with postgraduate education and specifically about the time students take to complete their studies (cf. Holdaway et al 1995, Sayed et al. 1998, Lessing and Schultze 2012, Amehoe 2014).

A number of studies have been conducted into enrolment and student throughput at higher education institutions in Africa, by the World Bank; the South African Department of Education; the Association of African Universities; the United States Partnership for Higher Education in Africa (PHEA) and the Centre for Higher Education and Transformation (CHET) to mention but a few. In addition, the Higher Education Research and Advocacy Network in Africa (HERANA) with its' project on higher education and development, has been involved in research on the status of postgraduate enrolment and throughput at higher education institutions and the impact it has on world economies (Luescher-Mamashela 2015).

All these studies confirm that both student-related factors and institutional factors have an impact on low student throughput and students who take long to complete their postgraduate studies, or do not complete their studies at all ( Latona and Brown 2001, Carey 2004, Manathunga 2005, Shushok and Hulme 2006, Lovitts 2012, Amehoe 2014, Luescher-Mamashela 2015). But what is student throughput and how can it be conceptualised?

### **Conceptualising student throughput in postgraduate education**

The earliest studies of postgraduate throughput and retention in postgraduate higher education occurred in the United States in the 1930s and focused on what was at that time referred to as student mortality: *The failure of students to graduate* (Berger and Lyon 2015: 16). Historically higher education research always focused on solving students' problems regarding mortality (Shushok and Hulme 2006). To this end, much more research exists on why students fail to persist as opposed to why they succeed. By focussing on what students are doing right instead of what they are doing wrong, might illuminate new aspects of successful student experiences which can be applied to support all students (Amehoe 2014).

Researchers and scholars' comprehension of the meaning of the concept 'throughput' depends on various situations; and, for this reason, various terms have been developed over time to describe the different throughput situations. The use of the term 'throughput' may be traced back to attempts by quasi-academics and politicians to equate the success or completion rates of students at higher education institutions to the input and output concept in industry. This is similar to the conveyer belt syndrome of a factory, the success rate of which is determined by the quantum of output released through a revolving door (Clifford 2014). With this perception in

mind, MacMillan (2007: 237) defines throughput as *the amount of work, people, or things that a system deals with in a particular period of time*. Some other definitions of throughput go beyond the input and output production concept of industry which appears to be limited to goods or products and consequently involves the number of people a system deals with in a particular period of time. Horne and Naude (2007) defined the throughput rate at institutions of higher learning as the percentage of students who registered for a module or course and passed the prescribed examination. Authors such as Craincross (1999), Latief and Blignant (2008), Hauser and Koenig (2011) and Amehoe (2014) concluded that the most simple description of student throughput is the number of years a student takes to complete the prescribed examinations.

The concepts that underpin student retention and departure have been illustrated by scholars in various models of which Tinto and Durkheim's models are the most well-known (Draper 2008). The publication of Tinto's 1975 landmark student integration model demarks the start of the current international dialogue on student retention and student throughput (Tinto 1997).

This model theorises that students who socially integrate into the campus community increase their commitment to the institution and are more likely to graduate (Tinto 1975). While Tinto's model has been supported, attacked and revised over the last 30 years, it has significantly influenced how researchers and practitioners view postgraduate student retention and graduation (Swail 2014). Tinto's seminal theory created a base from which thousands of studies have followed, making postgraduate student retention one of the most widely studied areas in higher education today (Berger and Lyon 2015). Tinto's 1975 model was followed in 1993 by a second model of him, this time on student departure (Tinto 2007). This model states that to persist with their studies, students need integration into formal and informal academic systems as well as into formal and informal social systems (Draper 2008, Demetrouiu and Sciborski 2012).

Tinto's 1975 student integration model has changed over the course of the 35 years from when it was originally introduced. Most notably, its more recent versions have included motivational variables including goal commitment. Over the last decade motivational theories from multiple fields of study, including educational psychology and social psychology, have been applied to practice, theoretical developments and the study of postgraduate retention. In particular, the attribution theory of motivation has been notable in practice and in the retention literature. Additionally, expectancy theory, goal setting theory, self-efficacy beliefs, academic self-concept, motivational orientations and optimism have been used to gain understanding into

postgraduate student persistence and retention (Habley and McClanahan 2014).

This model explains in no uncertain terms the reasons behind student retentions and student departures at institutions of higher learning by identifying and explaining three major sources of student departure from the system, namely academic difficulties; inability of individuals to resolve their educational and occupational goals; and students' failure to become or remain incorporated in the intellectual and social life of the institution. The central idea of the model is that of 'integration'; it claims that whether a student persists or drops out is quite strongly predicted by their degree of academic integration (personal development, enjoying the subject, academic self-esteem and identification with academic norms and values) and social integration (how many friends they have, personal contact with academics and their enjoyment of study).

Holistic approaches to student retention include all stakeholders carried over from the late 1990s to the early 2000s. Retention literature from this time stresses cross-departmental institutional responsibility for retention via wide-range programming (cf. Kadar 2001, Lehr 2004, Salinitri 2005, Walters 2004, White 2005). These studies emphasised that all programmes and initiatives designed to support postgraduate retention should deal with formal and informal student experiences inside and outside the classroom. Habley and McClanahan (2014) reiterated that the interactions students have with concerned individuals on campus (faculty, staff, advisors, peers, administrators) have a direct impact on postgraduate retention.

To this end, Tinto (2010) suggested that to improve postgraduate retention, all higher education institutions must offer easily accessible academic, personal and social support services. The interactions students have on campus with individuals at academic, personal and support service centres can influence their sense of connection to the institution and their ability to navigate the campus culture; meet expectations and finally graduate. An institution that holds high expectations and actively involves students in its learning creates an environment where students are more likely to succeed (Demetroiu and Sciborski 2012).

In conclusion, throughput is all about making adequate provision in the academic environment to help students complete their studies on schedule; to improve their success rates in the various programmes; and prevent them from dropping out of system. This involves certain strategies geared towards retaining students and making their experience fulfilling on a sustainable basis.

## **Factors related to student throughput**

The conceptualisation above reveals the significance of throughput studies in higher education. Among the important institutional strategies that can correct negative consequences associated with low throughput rates at an institution are to increase success rates and reduce dropout rates. A low throughput rate results in time spent by lecturers on students who do not complete their courses in time; negative perceptions of the image of the institution; and a loss of money time and lower self-esteem on the part of the student (Bischoff 2005, Visser and Hansio 2005).

Governments have always embraced investment in higher education because they recognise that there is a close link between research and economic development and they are therefore interested in funding postgraduate programmes, especially doctoral programmes. Such funding takes the form of grants allocated either to institutions or directly to students; and such grants are catered for in national annual budgets. In Australia, Canada and the Nordic states, doctoral education is free; the fees are sponsored by a number of stakeholders. In other countries, such as Thailand and Japan, loans are available to students on postgraduate level. Such stakeholders are, therefore, concerned about throughput and attrition trends. Attrition and completion rates of postgraduate students are becoming statistics of vital concern to governments and funding agencies because they tend to rely on a performance-driven model to make informed judgments about higher degree research (Eggins 2008, Lessing and Schultze 2012, Amehoe 2014).

Studies by Jiranek (2010), Wamala et al. (2012) and Amehoe (2014) revealed factors such as field of study; attendance mode (part-time or full time); scholarships; and technical difficulties experienced in the course of research all have an influence on the time research master's and doctoral students take to complete their studies. Several other most often cited variables in student throughput also include academic and social integration and engagement, financial independency and demographic factors. These factors have been found to directly or indirectly influence students' ability or desire to graduate. In addition, the quality of a student's prior instruction and his/her preparedness for postgraduate level work can significantly influence whether or not he/she will succeed at an institution of higher education (Habley and McClanahan 2014). Jiranek (2010) divides these factors into the following two broad categories:

- **student qualities and personal situations** (referring to academic ability, financial situation, language skills, interpersonal skills and persistence)
- **resources and facilities available to students** (referring to materials, equipment and expertise).

Nevill and Chen (2007) singled out financial support as the main factor contributing to students' ability to complete doctoral degrees; and established that many postgraduate students in the USA are unable to balance work, family and educational responsibilities simultaneously. But what is the situation in an African country such as Ghana as far as student throughput is concerned?

### **Objectives with the study**

The ultimate goal of any study on throughput is not only to contribute towards ensuring that students complete their studies on time, but also to ensure that the number of students who complete their studies within accepted time limits keeps rising steadily. Studies on throughput therefore seek to identify and understand the reasons why students take long to complete their studies or fail to complete their studies (student dropout situations). Apart from identifying and understanding the reasons, throughput studies also seek to recommend solutions to ensure improved completion rates and that dropout rates are kept very low at the same time maintaining or increasing the success rate. The aim of this study is therefore to investigate the possible causes of delayed completion and non-completion among research postgraduate students at the University of Ghana; and to recommend ways in which these situations can be improved. The research question for this study can be phrased as follows: **Which specific factors influence throughput rates at the University of Ghana?**

### **Methodology**

This study represents a case study at the University of Ghana in Accra. The population for this study consisted of research masters' and doctoral candidates who completed their theses between 2010 and 2014, but not in the prescribed time (extended candidatures) and their supervisors. The former postgraduate students were purposefully selected from the graduation classes of this period because the cohort of students belonged to the period prior to institutional interventions towards improving postgraduate delivery at the University of Ghana.

Purposive sampling was appropriate for this study because the study sought to investigate a phenomenon within a specific time frame (Twumasi 2001). The sample used for this study was ten former master's students (coded MS) and 10 former doctoral students (coded DS) who completed their postgraduate studies during the period mentioned above, although not in the prescribed period, and five supervisors (coded S) who supervised the sampled students. Face-to-face interviews were conducted with the participants.

There was no voice recording of responses which enabled the respondents to speak freely on the issues raised. Issues related to confidentiality and accuracy of note-taking was taken seriously during the research. Structured interview schedules were used with adequate space provided after each open-ended item to facilitate responses. Thereafter, follow-up interviews were conducted to obtain further clarification on some responses. The respondents were reminded on a weekly basis to complete interview schedules by means of electronic mail, telephone calls and personal visits by research assistants. The services of record officers were sought to retrieve the files of the students selected for review from the archives of the School of Graduate Studies at the university. Each file was thoroughly read from the first to the last document. In this process noted relevant data of issues such as date of first registration; appointment of supervisors; thesis topics; the date on which the thesis were submitted; the date on which the oral examination or defence was held; and the date of graduation.

The structured interview schedules for both students and supervisors were pre-coded. By coding the items, it was possible to count frequency of responses in terms of ideas, themes and words. It also made it possible to categorise items; identify patterns and variables; and synthesise various accounts into coherent evidence from the responses. Written responses to some of the interview questions and responses to open-ended questions in the questionnaire were analysed qualitatively by keeping track of the responses given and teasing out the meaning of ideas expressed by the respondents into coherent themes. It was possible for the researcher to distinguish between dominant views and minority views and themes that emerged from the responses, since the structured interviews and open-ended interviews were coded. Some responses to the structured interviews were reproduced verbatim in order to support specific characteristics that emerged from the accounts.

Through document analysis, very useful data were obtained from the selected case files. These records provided documentary evidence of the experiences of student respondents and a clearer understanding of the situations described by the respondents. Themes were derived from the summarised data on each of the case files for analysis and discussion.

Reliability is assured when the same results would be obtained if the research were repeated and validity when research measures what is intended to measure (Bovee and Thill 2011). Interviews allow the researcher to follow up on misunderstood items and inadequate responses, which generally promotes validity. In light of the above information, all the interview schedules were self-administered which offered the opportunity to pose follow-up questions to the respondents personally. Another way of

ensuring instrument reliability and validity was to carefully construct interview schedules to ensure that each question is related to the research topic; and to adequately cover all aspects of the research topic in the research questions. The use of interviews and document analysis for data collection ensured triangulation, which further underscores the reliability of the research.

Patton (2002) proposed a simplified model of seeking the consent of respondents and interviewees in qualitative surveys, suggesting that opening statements should be designed in a manner that would provide answers to questions such as: What is the purpose of collecting the information? How will it be used? What questions will be asked in the interview? The consent of all potential respondents was sought beforehand by emailing consent letters to them. This was done to introduce the researcher and explain the reasons for seeking the respondents' views in the subject area so that they would feel free to express their views.

To disabuse respondents' minds of any doubts concerning the research, the purpose of the research was indicated in the prior consent notices and on the questionnaire. Tape recorders were avoided; and the interviews were held without the presence of other people. The prior consent of all interviewees was sought in writing; therefore establishing a good rapport before, during and after the interviews. Confidentiality was also ensured by re-assuring the respondents at the beginning of the interview that their responses are strictly confidential and would only be used for the purpose of the research. Finally, the respondents were also given the opportunity to ask questions to clarify any doubts in their minds about the study.

## **Findings and discussion**

The interviews revealed a number of reasons or causes of extended candidature among postgraduate students at the University of Ghana. The interview responses and open-ended statements pointed to specific causes which were analysed and grouped into four main themes for ease of reference, understanding and relevance to the objectives of the study, namely time, personal circumstances, distance from campus/supervisor and finances.

## **Problems with time**

Most postgraduate students who combined studying with work were not able to devote adequate time to their studies. The qualitatively data and student case files of extended completion students clearly indicated that the students had full time jobs at the time they enrolled for their studies. The challenge of managing time for work and study rested with the students. One doctoral student (DS1) replied in this regard: *I was combining my job with*



*numerous other commitments, this was not easy, I which I could have done it another way, One of the master's students (MS3) stated as follows: My problem was time, if I had enough time I would have completed in the prescribed period.*

As with other postgraduate students worldwide, their job demands clearly made it difficult for them to complete their studies in the designated time frame. A doctoral student (DS5) explained: *Although I was officially on part-time study leave I didn't have free time assigned to do the thesis, so I combined full-time work and periodically did the work on part-time.* Another participant, a master's student (MS7), commented that: *most graduate students work to provide for themselves and their dependents, this makes it difficult from them to concentrate on their academic work.* One of the supervisors (S1) added that *the main problem was with students not working hard enough on their theses because they were working elsewhere.*

Evidence in two student case files (DS4 and MS2) showed that the students did not complete their studies on time due to time constraints. They had to juggle their studies and work and could therefore not make progress. One supervisor (S5) commented in this regard: *Students couldn't complete data collection because they were working; sometimes students get employed in their thesis year and drop out. Others simply lacked focus or didn't set the right priorities.* Another supervisor (S3) shared her opinion: *one of my students in my department was incapable pursuing a PHD even though she had sufficient background qualifications,* while another one (S1) added: *My one student was simply not focused and consistently expended his energies on other things (moonlighting) instead of completing his research.*

It is evident from the personal confessions of students and their supervisors that this obstacle of a lack of time resulted in a challenge for them and therefore prevented them from completing their research works and submitting their thesis on time, with the consequence of delayed or extended completion.

### **Personal circumstances**

In addition to time constraints, personal circumstances were cited as another main and contributing obstacle to successful completion of studies. Evidence in three student case files (DS10; DS5 and MS2) indicated unexplained circumstances and inability on the part of students to communicate their challenges which resulted in lapsed candidature or non-completion of their studies. When these three respondents were questioned about the issue, two were prepared to elaborate. One of the doctoral students (DS5) stated the following: *I had problems with my marriage, therefore I could not focus on my study, I had to save my marriage, this was more important at that time.* A master's student (MS2) added the following: *I had*

*health problems for two years, this has made it very difficult for me to focus on my postgraduate studies; I had to take extension due to ill health, I had surgery.*

Personal challenges such as family constraints or misplaced priorities like to become involved in more lucrative ventures (moonlighting); employers' inability to grant student study leave; and poor performance at the course work stage in the instance of master's students were also cited as reasons why they did not complete their studies on time. The inability of some students to communicate the difficulties they encountered during their studies also contributed to non-completion or dropping out of the system. One student (DS10) explained as follows: *I did not know where to go; I had personal problems and issues that I could not discuss with my supervisor or other students; I did not have any support structure.*

### **Distance from campus/supervisor**

Besides these personal challenges such as family demands (especially from students who were married) and health issues, qualitative data from student responses also revealed other issues such as the lack of access to libraries and internet services due to the distance between their residences and institution of study as reasons for slow throughput. One student (DS2) commented in this regard: *I was stationed in a very deprived area where I had difficulty in accessing good libraries and internet services, while another one (MS5) stated: I just wish my supervisor was closer to me; it was such an issue to visit or even contact him; he was so far.*

### **Finances**

Most postgraduate students were unable to get financial support for their studies due to inadequate sponsorship opportunities or sources of funding to meet the high costs of research, especially in the sciences. One student (MS4) commented: *I had to ask for extension due to lack of funds to conduct field research in good time, and this results in the late return of results for samples sent abroad for analysis.* Another student (DS7) added: *I could not complete on time because I had to start working in the factory when my father had a fatal accident and could no longer assist me.* A supervisor (S2) replied: *Students with financial problems were engaged in full time or part time employment, and it appears some students wanted to guarantee themselves reasonable job security on completion of the program.*

Another issue cited by respondents was the high fees charged for postgraduate studies at universities. One student (DS4) stated the following: *We are charged way too much. Government should force our public universities to charge realistic fees.* One supervisor (S4) with supervision experience in other countries added: *The model in countries which allowed*

*its universities to charge full fees for certain market driven and highly sought degrees and afterwards returns such full fees to assist the needy or sustain the less subscribed disciplines, may be considered for Ghanaian public universities.* In this regard it is worth noting that some private institutions of higher learning in Ghana are already making great strides in this direction.

The lesson to be learned from these discussions is that all students interviewed encountered personal and other problems during their candidature. The challenge is how they should handle these issues so that they do not escalate into more serious problems with adverse consequences like their ability to complete their studies on time.

## **Conclusion**

A historical look at postgraduate retention revealed that empirical study of this phenomenon had grown considerably over the last 50 years. Researchers are concerned about the variables related to student persistence on post graduate level and identified best practices to encourage degree attainment. Tinto's theory of student retention remains a seminal theory important to the field; however, applications of motivational theories to postgraduate retention over the last decade had brought many new and interesting perspectives to retention study and practice. Specifically, practitioners such as academic advisors have been interested in attribution theory.

Additionally, recent retention research used theories of expectancy, goal setting, self-efficacy, academic self-concept, motivational orientations and optimism. Research on optimism and individual strengths and focus of the positive psychology movement, had been a notable addition to the study of student success in postgraduate studies.

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