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Research Article

Enhancing Nursing Student Success: A Critical Realist Framework of Modifiable Factors

Abstract

There is a range of literature examining the predictors of academic success in nursing including age, entrance qualification and background. However, these are factors that cannot be changed once a student is on a programme of study. However, there is currently little or no literature that focuses only on the modifiable behaviors and environmental factors in achieving good academic success.

This project aimed to explore the modifiable factors that may influence academic performance and develop a framework to guide students and academic staff. A critical realist 'intensive' approach employing qualitative methods was used with pre-registration 3rd year nursing students as participants.

Unstructured interviews with use of academic grade documents as a point of reference. Thematic framework analysis enabled comparison on a case-by-case basis.

Eight modifiable student themes were identified: time management, understanding of learning outcomes, focus on the topic and its role in the wider programme, utilization of academic team, peer support, using feedback, life management, and management of stress factors. Four themes for academic staff were found under the headings: encourage, enable, empower and ennoble.

The framework presented provides focus on the factors that can be changed and influenced in order to achieve success. This framework may be used by staff and students to develop guidance documents or in design of teaching and assessment.

Introduction

Performance indicators & the importance of modifiable factors in academic success

Understanding the reasons for success and failure in nursing programmes has been a topic of investigation for many years. Preventing academic failure is a core focus of Higher Education Institutions. Factors such as entrance qualification, age, gender, and ethnicity and work commitments have been linked with academic success or failure in both nursing and other degree programmes [1-6]. However, there is contradictory evidence about the influence of some of these factors and the definition of 'success' or 'failure' is also inconsistent [7]. This makes it difficult to draw comparisons but seems to place significant focus on factors that educators, students and HEIs have little control over once students are on the programme. For example, gender has been linked with academic performance in nursing but there is nothing educators can do to change the age of a student once they have entered a programme of study. Hence, this research project sought to focus on those factors

[modifiable] that can be improved, changed or enhanced (e.g. study skills strategies).

It is evident that the majority of the available literature focuses on indicating performance with a view to amend entry criteria or early identification of those who may be 'at risk' and/or factors that cannot be changed easily once a student is on a programme of study e.g. age, entrance qualifications and ethnicity. There is literature that discusses possible behaviors and characteristics that educators may facilitate to enhance performance. However, no literature has been found that examines the actions and behaviors of those students who are successful in achieving good or excellent academic grades.

Review of the Literature

Frietas & Leonard [8], conducted a survey of 190 nursing students needs based on Maslow's Hierarchy. While the survey was limited to Likert responses this particular piece of evidence was unique in that it considered the ability of students to meet their learning needs and suggested possible methods by which

this could be achieved. Pitt et al. [9], considered the personality traits of nursing students and how these may impact on academic performance through a cross sectional study using a validated personal qualities assessment. However, while the findings may be informative it is argued that changing personal qualities of students would prove to be complex and unrealistic. Pitt et al. [10], further suggested that critical thinking skills impact on student academic performance through the use of a validated health sciences reasoning tool. Again, this supports the development of critical thinking skills across the academic programme but the conclusion placed focus on assessing critical thinking upon entry rather than the methods by which to facilitate these skills.

Ofori & Charlton [1], developed a theoretical framework illustrating the factors impacting on academic performance and although this acknowledged some modifiable factors, the primary start point was age and entry qualifications. Factors that students and academic staff are unable to change once on a programme.

Conversely, Ali & Naylor [11] conducted a statistical analysis of academic records of 628 students in Pakistan, finding unexplained variance in a range of performance indicators, suggesting that there are wider influencing factors such as financial issues. As a result they recommend the need for qualitative research with students who are 'successful' in order to examine the underlying mechanisms. It emphasised that one consistently accurate method of predicting performance for the purpose of recruitment and selection is unlikely to be possible.

Dante et al. [7], conducted a systematic review of literature relating to performance indicators and success. This confirmed the complex nature of nursing student's academic performance, illustrating that influencing factors for one student may be very different for another. It is known that students who work, have family commitments and come from a range of backgrounds can still be academically successful despite what the evidence states. Furthermore, Urwin et al. [12], contests that there is little HEIs can do to attribute causation to academic success or failure, nor are they able to control such causes. Therefore, it is concluded that HEIs should develop policy that supports those behaviors and factors that are modifiable for the University and the student, enabling and empowering students to overcome the potential barriers [7]. The available literature has been unable to effectively address the methods by which HEIs and students can predict academic performance. Conversely, the focus on preventing failure [although important for attrition] seems to take a negative approach, particularly if identifying factors such as age and ethnicity that educators and students can take no action to change. It is contested here that HEIs and students should be empowered, enabled and encouraged to adopt behaviors that will help them to overcome the challenges faced and improve their academic performance.

Aims and Objectives

'What are the modifiable factors that explain why some nursing students are successful in achieving good or excellent grades?'

This research aimed to explore the factors that determine 'good' academic performance with a view to explain the underlying behaviors and actions of students who achieve 'good' academic performance during their programme. Good academic performance is considered to be a 2:1 or 1st degree. 1 illustrates the international comparisons for a 2:1 or 1st degree in the United Kingdom. As a result it hoped to develop a framework for students and staff that can be implemented and evaluated.

The objectives were:

- Employ a critical realist approach using qualitative, unstructured interviews with third year pre-registration nursing students
- Critically analyses and compare determining factors, modifiable student behaviors and experiences using a thematic framework analysis
- Develop a framework that will inform students and academic staff on the approaches to enhance academic success

Methods

Critical realist (CR) approach

Bhaskar (1975) [13], first published *A realist theory of science* and remains one of the most dominant in research philosophy relating to realism. In contrast to positivist and interpretivist paradigms that are traditionally in conflict, CR [as a post-positivist philosophy] is an ontological standpoint that argues for modified objectivity of what is real (epistemology). It is contended that CR presents a solution to the traditionally opposed objectivity of positivism and subjectivity of interpretivism where knowledge can only be determined through experiment or participants perceptions. Alternatively CR argues that there are mechanisms that exist beyond what we control within a closed experiment or an individual's perception of a situation. For example, gravity still exists whether a researcher is conducting research or not and it existed before humans were on Earth. Conversely, CR would argue that an interpretivist view that reality is based on human constructs of that reality only seeks to explore their perceptions of it rather than explain the underlying mechanisms that may explain it; society exists as a result of these mechanisms rather than constructed by those within it.

CR favours an intensive research design with in depth analysis of a focused number of cases [14]. The world is considered to be stratified over three levels (Figure 1) and such an approach enables the complexity of the underlying behaviors and actions of successful students to be observed (empirical), explored and explained (actual). This can then be considered alongside current research evidence and applied to the most 'likely' theoretical model reflecting the 'real' domain. This also acknowledges that 'reality' may change over time and that there are different possibilities in different situations. Applying CR to this research process will enable a transferable model to be developed that is adaptable to range of situations in

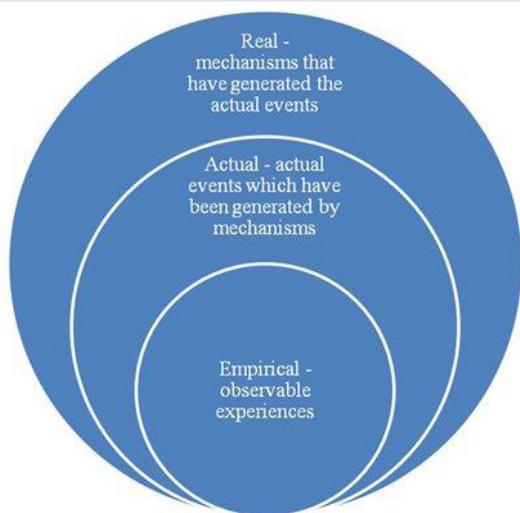


Figure 1: The strata of the world adapted from Mingers & Wilcocks (2004).

nurse education. As a result of the conclusions from published evidence the application of this approach seeks to provide a model to facilitate success rather than control the predictors of success [7,11,12]. CR has therefore been chosen here as it specifically seeks to explain and understand the possible influencing factors of behaviors rather than participants perceptions of them. It will also enable a focus on the factors that can be changed rather than the things that cannot.

Sample and recruitment

Participants were recruited from a convenience sample of two cohorts of pre-registration nursing students undertaking a programme of study in adult or mental health nursing in the College of Health & Social Care. A convenience sample was deemed to be appropriate given the resource available and that the programme is delivered over two geographic sites. The University is located in the East Midlands of England, UK and has two sites of programme delivery in the West and North of the region. The nursing student sample population had the following characteristics and are deemed to be typical of the student nurse population in England and similar demographics to those training in the USA and Australia [15-17]:

- Mean age is approximately 28
- Approximately 49% are the first into higher education
- 45% access the programme through non-A level routes
- 83% are female
- 86% have previous care work experience

Over 200 students were eligible for inclusion. Inclusion criteria were:

- Student in the final 6 months of their programme of study
- Had achieved a good or excellent grade for the final two years of their study and likely to achieve a 2:1 or above (Table 1)

- Pre-registration adult or mental health nursing
- Willing to provide informed consent

Students were recruited via two methods:

1. an email sent through the University system
2. face to face when they attended a taught session on campus

They were provided with a participant information sheet and an expression of interest form. Following this a mutually acceptable interview date was arranged. Participants were given the opportunity to ask any questions and asked to sign an informed consent form. Interviews were undertaken in a private room on one of the University campuses.

Interviews were undertaken until data saturation was achieved. Given the current literature on similar topics was estimated that this would require between 5-10 participants [18].

Data collection

Open interview was chosen to enable students to recount their academic journey with the prompt of their current academic transcript. This meant that students were free to explore areas where they particularly excelled and begin to think about what may have been different or similar based on comparisons of performance in one module to the next.

Interview prompts were used to clarify meaning of responses or probe further into the underlying reasons 'why' they did or did not do something or 'why' they did or did not think something; similar to the 5 whys of root cause analysis [19,20]. This sought to identify the underlying causal factors that influenced behaviors and complements the CR approach. The researcher took notes during the interview in order to prompt later analysis but also to indicate where probing questions might be required without interrupting the participants account.

Interviews were digitally recorded and transcribed by an experienced member of University staff.

Data analysis

A five stage framework analysis using the approach outlined by Srivastava & Thomson [21] and Rictchie & Spencer [22], was employed in order to compare each participant response on a case by case basis. 1. Familiarization, 2. Identifying thematic framework, 3. Indexing, 4. Charting, 5. Mapping and interpretation. This method of analysis was particularly useful for explanation and interpretation with a fixed cohort (pre-registration nurses) in a fixed timeframe. It therefore complements the CR approach taken.

Interview transcripts were read and re-read to identify initial codes and key themes. Firstly the student's actions and behaviors were addressed, followed by the University/

Table 1: Comparison of 'good' degree classifications internationally.

Country	Qualification	Grade comparison	
		Grade	UK
Argentina	Licenciado; Titulo de professor; Professional title	9 7.5	1 st 2:1
Armenia	Specialist diploma; Masters pre 2005; Bachelor degree (hons)	5; 9-10; 18-20; Excellent GPA 4.0 4; 7-8; 13-17; good; GPA 3.0-3.5	1 st 2:1
Australia	Bachelor degree (hons)	1st 2(a); 2(i); 2(b); 2(ii)	1st 2:1
Austria	Bachelor degree	Sehr gut Gut	1 st 2:1
Azerbaijan	Specialist diploma	5; 91-100 4; 81-90	1 st 2:1
Bangladesh	Bachelor degree (4 years) from BUET	GPA 3.75 GPA 3.0	1 st 2:1
Belarus	Specialist diploma post 1991	9-10/10; 5/5 8/10; 4/5	1 st 2:1
Belgium	Licence/ licentiaat and other 2 cycle diplomas; academic bachelor degree	80-100%; 16+/20 70-79%; 14/20	1 st 2:1
Bolivia	Licenciado; Professional title	89/100; 9/10 75/100; 8.5/10	1 st 2:1
Bosnia & Herzegovina	Bachelor degrees (Bologna awards); Visoko Obrasovanja	10; 5/5 9/10; 4/5	1 st 2:1
Brunei	Bachelor (hons) degree	1 st 2:1	1 st 2:1
Bulgaria	Professional bachelor degree (post 2003); diploma \a zavarsheno visshe obbrazovaine; Masters degrees pre 2000	6 5	1 st 2:1
Cambodia	Masters degree	85-100; A; 4.0; excellent 80-84; B+; 3.5; very good; B; 3.0; good	1 st 2:1
Cameroon	Masters degree without thesis	16 14	1 st 2:1
Canada	Bachelor degree; bachelor degree (honours); professional degree	3.7; A 3.3; B+	1 st 2:1
China	Bachelor degree	90% 85%	1 st 2:1
Columbia	Licenciado/professional title with accreditation	4 3.6	1 st 2:1
Costa Rica	Licenciado	9 8	1 st 2:1
Czech Republic	Bachelor degree post 2002; Magistr/professional title pre 2002	1; A; excellent 2; B; very good	1 st 2:1
Denmark	Bachelor degree; professional bachelor degree	12 10	1 st 2:1
Estonia	Diploma (bachelor degree)	5; A 4; B	1 st 2:1
Fiji	Bachelor degree (University of South Pacific)	A; 80%	2:1
Finland	Lower academic degree post 2005; professional titles	3/3; 5/5 2/3; 4/5	1 st 2:1
France	Licence post 2009; Licence professionnelle; Maitrise	15 13	1 st 2:1
Germany	Bachelor; diplom	Excellent Very good	1 st 2:1
Ghana	Bachelor degree	Division 1; 3.6/4.0 Division 2:1; 3.25/4.0	1 st 2:1
Greece	Ptychio	Excellent; 8.5-10 Very good; 6.5-8.49	1 st 2:1
Hong Kong	Bachelor degree (honours)	1st 2:1	1 st 2:1
Hungary	Bachelor degree	5; excellent 4 good; 3 average	1 st 2:1

Iceland	Baccalaureatus degree	9 8	1 st 2:1
Indonesia	Course accredited with A	4.0 3.0	1 st 2:1
Ireland	Honours bachelor degree	First class Second class grade 1	1 st 2:1
Italy	Diploma accademico il primo livello; diploma di laurea post 2002	110 101	1 st 2:1
Jordan	Bachelor degree	3.7 3.0	1 st 2:1
Kazakhstan	Specialist diploma	5 4	1 st 2:1
Kyrgyzstan	Master's degree; specialist diploma post 1991	5; excellent 4; good; credit;	1 st 2:1
Lithuania	Bachelor degree post 2001; professional bachelor degree	5/5; 10/10 4/5; 9/10	1 st 2:1
Macedonia	Visoko Obrazovanja	10 9	1 st 2:1
Malaysia	Bachelor degree	Class 1; A Class 2 division 1; A-B+	1 st 2:1
Malta	Bachelor honours degree	1st 2:1	1 st 2:1
Mauritius	Bachelor degree	1 st 2:1	1 st 2:1
The Netherlands	Bachelor degree post 2002; doctoraal	Grades 9 (8.5-9.4) – 10 (9.5-10) Grades 7 (6.5 – 7.4) – 8 (7.5-8.4)	1 st 2:1
New Zealand	Bachelor honours degree	A; 60; 4; pass with credit B+; 70; 3.3; good pass	1 st 2:1
Norway	Bachelorgrad	A C+	1 st 2:1
Portugal	Licenciado; diploma de estudos superiores especializados	18 16	1 st 2:1
Romania	Diploma de doctor-medic	9 8	1 st 2:1
Samoa	Bachelor degree (University of South Pacific)	A; 80%	2:1
Slovakia	Bakalar bachelor degree post 2005; professional titles;	Excellent Very good	1 st 2:1
Slovenia	professionally orientated first degree diplomant; university diploma	10; excellent 9; very good	1 st 2:1
Solomon Islands	Bachelor degree (University of South Pacific)	A; 80%	2:1
South Africa	Bachelor honours degree	1; 75-100 2.1; 70-74	1 st 2:1
Spain	Titulo de licenciado	9 7.5	1 st 2:1
Sri Lanka	Professional degree	1 st 2:1	1 st 2:1
Switzerland	Bachelor degree	Summa cum laude 6; insigni cum laude 5.5 Magna cum lauda 5	1 st 2:1
Tajikistan	Specialist diploma post 1991	5 excellent	2:1
Tanzania	Bachelor degree	1st 2:1	1 st 2:1
Thailand	Bachelor degree 6 years	A; excellent; 4 B+; very good; 3.5	1 st 2:1
Tonga	Bachelor degree (University of South Pacific)	A; 80%	2:1
Uganda	Bachelor degree	Class 1 – top honours; 4.4-5 GPA Class lii – honours upper 4.0-4.3 GPA	1 st 2:1
Ukraine	Specialist diploma post 1991	5/5; 10/12 4/5; 7/12	1 st 2:1
USA	first professional degree	3.7-4.0 3.3-3.7	1 st 2:1

Uzbekistan	Specialist diploma	5 4	1 st 2:1
Vanuatu	Bachelor degree (University of South Pacific)	80%; A	2:1
Zimbabwe	Bachelor of arts/science with honours; specialist diploma (University of Zimbabwe)	1; distinction 2:1; merit	1 st 2:1

educators. This recognized that there are likely to be micro and macro level influences that require different approaches by the student and education staff.

These were tabulated as the transcripts were analyzed and any new themes were added to the table as they emerged. This method aimed to enable comparisons of each respondent to be drawn on a theme-by-theme and case-case-basis.

From each, the researcher was able to identify common behaviors and activities that may possibly be linked with academic performance. These were then separated into the following categories, firstly for the student and then for university/tutors:

- Determinants of behavior's – personal and external
- Factors and mechanisms as a result of these behavior's – behavioral and environmental
- Desired outcomes presented as overarching themes

No data analysis software was used but spreadsheet software was used to tabulate and database codes, themes and findings.

Ethical considerations and approvals

Ethical approval given by the College of Health and Social Care Research Ethics committee. Participants were allocated a unique participant number and all transcripts were read to ensure any identifiable data were removed to ensure anonymity. All research documentation was kept in accordance with Data Protection Act (1998).

Rigour

The researcher was known to the students as a Senior Lecturer in the University where they studied, however the researcher was not involved in teaching or assessment of the students.

Clarification questions were used during the interviews and noted during the interview process with a view to enhancing credibility of meaning and findings. Along with this, the ideas generated from analysis were discussed with a student and member of staff, given that it was the researcher alone who analyzed and interpreted the data.

Transferability is often difficult to ascertain in a study such as this [23], however, the main goal of this CR study was to inform the development of a framework that may be adapted by others in other contexts. The very nature of CR acknowledges that reality and truth can never be fully known, and that it may change with time, context and location. Hence, the goal here was to develop a framework that acknowledges this principle.

Results

A total of 6 participants completed the open interview. Their mean age was 29.8 years with 2 male and 4 female participants, two from mental health nursing and four from adult. Given the sampling frame and typical UK population, this sample was deemed to be similar to the local and national average.

Interestingly, almost all of the participants expressed a lack of confidence in their abilities and were repeatedly self-critical, suggesting that success is not necessarily linked to confidence.

It was observed that all of the participants seemed to have high standards and made comments such as:

“just want to scrape through...I want to do well” (participant 001)

“D+ and I was heartbroken with it. Absolutely heartbroken” (participant 002)

They had a genuine need to do well although their ideas about ‘doing well’ meant that some felt grades that would lead to a 2:1 degree (60–70) were:

“I got 60 something...that annoyed me” (participant 004)

“I got an A- on that one and in the second year I got 68...which both times I was reasonably disappointed with” (participant 003)

Almost all participants discussed their background and journey that had led them into their degree programme. However, comments about personal motivations, age, upbringing and past experience was attributed to non-modifiable factors and was not reported here (but is reported elsewhere in the literature).

Modifiable factors - student

A sample of the framework analysis undertaken can be seen in Table 2.

The overarching themes for student modifiable factors were:

Factor 1. Time management – assessment focused

Almost all of the students spoke of time management when approaching assessments in their programme, they also recognized that the programme and studying was more than a 9–5 job. Assignments were of particular focus for all participants. All participants made reference to starting work on assignments early on in a module and ensuring that they were completed well in advance of the deadline:

“start it early...I’ll finish so I can have time off...I prefer just to chill out in the last two weeks knowing everything is done” (participant 006)



“I’ve already written a thousand words and it’s not due for another 5 weeks but I’ve already got all my articles and I’ve highlighted them...” (Participant 004)

“work on a paragraph each day...aim for 500 words ish” (participant 003)

Conversely, students also felt that planning sections of the assignment and working on this for short and regular periods of time was the most effective and productive approach:

“...I will set aside an hour most days” (participant 002)

“I don’t think well I’ve got 6 weeks, 7 weeks to do it...even if it’s just 100 words I do a little bit more and the more I do the more I feel better about it...always take time away from it...don’t ever spend longer than an hour at the computer without taking a break...it will just get muddled up” (participant 003)

Students also felt that almost completing or completing the work with at least a few days prior to the deadline meant that they could leave it and return to it to tweak and finish off with a different perspective:

“always some things that you do do at the last minute...finish off...write your conclusions...” (Participant 001)

“doing it on different days gives you different perspective” (participant 003)

“plan to be finished a week early...I’ve got a week spare if I still need to check it or read it...and change some bits...had a week off you can then notice a lot more things than when you’re in the moment you don’t notice is wrong with it” (participant 005)

Factor 2. Understanding of the module and assessment

Participants discussed how they begin to understand the module purpose and the assessment process. They felt this was important in order to understand what the requirements would be to pass with higher grades. Finding and understanding the marking criteria, module content and learning outcomes prior to or very early on in the module was considered to be good practice:

“I do use the marking criteria...stick to exactly what the tutors are saying especially if there is a plan for you” (participant 003)

“I go through all the work...the module handbook and I print everything off...I get a highlighter and highlight everything I feel is relevant to me...get al.l the guidance sheets off” (participant 003)

There was also emphasis on identifying the taught sessions that would directly input into the assignment and making sure you understand the underpinning theory of these sessions.

Table 2: Example/sample from the framework analysis table – participants’ 001-002 ideas and quotes.

ase	Modifiable factors - Student							
	1. Time management - assessments	2. Understand the module and the assessment	3. Focus on topic rather than assessment	4. Interact and make use of module leaders/tutors	5. Utilise peer support mechanisms	6. Review previous feedback	7. Life management - general	8. Managing stress
001	<ul style="list-style-type: none"> - Start early - Complete draft early (2 weeks before deadline) and check it after a few days - edit several drafts - Submit early - Work in short sessions and have regular breaks - set time aside and use it for that purpose e.g. one hour every other day - Set targets: plan what needs doing and by when e.g. introduction and stick to it - don't sit and try to complete in one attempt - Be ready and willing to spend time on assessments - it's not a 9-5 job (studying) so do a couple of hours and then stop - do little and often even 30 minutes - if you start getting distracted then stop and revisit - plan your time from the beginning of a module, don't wait until the end 	<ul style="list-style-type: none"> - use the marking criteria when you are planning and writing - if there is guidance or a plan provided then stick to it - listen to hints and tips when a tutor says them in class - don't 'try out stuff' stick to what you know works 	<ul style="list-style-type: none"> - choose something relevant that you are interested in where you can - read a book on the topic before starting to write - don't just aim for 'level 6' or 'level 5' - read and use a wide range of literature sources - read around a topic before, during and after the module and assessment process 	<ul style="list-style-type: none"> - email tutors to obtain feedback as you progress - visit personal tutor regularly to build a relationship - send draft work to module tutors to read 	<ul style="list-style-type: none"> - Be willing to co-operate with and support peers 	<ul style="list-style-type: none"> - read your positive feedback to know what you did well - find out why you didn't get a higher mark and try to make the change on the next piece of work 	<ul style="list-style-type: none"> - Use the breaks in the timetable to read or work on assessments - come in to use the library on study days or days off to avoid distractions and focus - spend time with your mentor - don't work on assessment late into the early morning if you know you are placement the next day, this won't help the quality of any work 	<ul style="list-style-type: none"> - exercise, go to the gym

002	<ul style="list-style-type: none"> - If there are two assignments due on the same day give equal priority to them even if you feel more confident about one - don't expect or seek extensions unless absolutely necessary even if this may impact slightly on your marks. Taking time off can make it harder to catch up overall - don't leave assessment work until the last day - some pressure in the final week can help to focus energy and time - give time to all pieces of work even if you don't like the 'style' of writing in that assessment - expect to have to put in time and effort - plan your time for the assessment including reading - think about the word count during planning and as you write - read and re-read your draft pieces of work and edit as you go along - don't try to make work sound academic as this adds words and makes sentences complicated - read the questions properly, don't rush 	<ul style="list-style-type: none"> - if the tutors give you a 'crib' sheet or guidance then use it explicitly - break down work into workable, bite size sections - pay attention to the learning outcomes - make effort to understand what the assessment question is asking - understand module terms and what 'critical' means when writing at level 5/6 - turn up to lectures and make an effort to engage with the learning 	<ul style="list-style-type: none"> - Read around a topic in your own time - expect to do reading in your own time - acknowledge that reading is working towards the assessment - read the learning outcomes for the module and make sure you identify and read around these topics - choose something you are interested in or personal to you if you can - plan and allocate time for reading about a topic - don't focus on 'level 6' or 'level 5' 	<ul style="list-style-type: none"> - chat and use tutors to sound out problems, use them for support - use tutor support to learn how to improve in the areas you don't like as much as others - use your personal tutor to chat and get advice on the programme 	<ul style="list-style-type: none"> - it is good to learn in a group and comment on each other's learning 		<ul style="list-style-type: none"> - spend time with your mentor - don't work on assessment late into the early morning if you know you are placement the next day, this won't help the quality of any work - consider your placements, balance the priorities. If on placement when an assessment is due then plan to complete earlier 	<ul style="list-style-type: none"> - if you leave yourself less time then you will have more stress - exercise, go running, possibly the evening before an assessment
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Factor 3. Focus on the topic and programme rather than just the assessment

Participants identified the need to make effort to understand the context of the programme and career rather than just see things as a 'single' assessment. This was emphasised repeatedly through acknowledging the need for wider reading and research around a topic but also nursing practice throughout the programme to make this relevant to 'nursing' and learning rather than just the assignment.

"even when I'm on placement I read the policies...go on the intranet and find them because I think its important" (participant 001)

"always read around a topic...always read around it and if there's anything you don't understand, research it...ask someone...journal articles become more important" (participant 003)

"do a lot of reading around the subject...I think again that people don't appreciate how much reading you have to do" (participant 003)

Conversely, participants did not focus solely on the transition between academic levels e.g. second year to third year and the 'critical analysis'. Although it was recognised that moving between levels caused anxiety for some students they approached their work in the same way. As they progressed

through their course they increased the level of wider reading in academic journals and felt that this was a natural progression.

Furthermore, participants acknowledged the role of the course in their career pathway and lifelong learning rather than just 'training' and qualification as the end goal:

"they have got no intention of doing any further formal education once they are a qualified nurse. I cannot understand why you want to stop learning" (participant 003)

"I've finally found the career I really want to do and I'm interested in...that helps me to do better because it's something I want to do and learn more about" (participant 002)

"I've got a 10 year plan in my head after I finish here...I think the course is a fantastic platform" (participant 001)

Factor 4. Interact with the programme and make use of staff/resources

Participants recognised the need to interact with the programme e.g. attending lectures and making the best use of staff support through tutorials, having them read draft work and often just talking to their personal tutor:

"you get a chance to ask questions but even if you don't have anything you've thought to yourself sometimes when other people

say things, it may you think 'oh yeah, I should do that or that's a good idea...you can bounce ideas off each other" (participant 002)

Being active in lectures was also seen as important in order to develop and clarify learning and its relevance to the programme:

"in lectures its kind of like I would ask questions to kind of test my knowledge" (participant 005)

Using the library to work in but also as a resource for research was also noted as important.

Factor 5. Peer support mechanisms

Peer support mechanisms were repeatedly referenced. These were face to face and through social networking platforms; predominantly Facebook groups for specific cohorts. Participants all acknowledged the important role their peers play in their support systems but also learning:

"a few of us in our group that we put loads and loads of work into it and all supported each other...that's why we did so well" (participant 002)

"it's good to learn in a group and comment on each others learning" (participant 003)

"to be honest the best support system I feel are my cohorts and friends...we've all got issues and problems...battles we are dealing with and we all respect that and there for each other...I can ring any of them up and cry if I wanted to" (participant 004)

Sharing resources was also identified as important

"friendships do contribute to my work because it puts me at ease" (participant 001)

"I've seen this, do you want this? What do you think?" (participant 001)

These mechanisms have also shown to reduce anxiety related to simple pieces of information e.g. whether uniform was required for attendance at university. Facebook was also used to just feel part of a group and know that others were feeling the same way or to share ideas and get rapid feedback without being in the University.

"I think our cohort is quite good at wanting to help each other out and bounce like ideas off each other...go have a look at this it will help...I scroll back through what everyone has said and you've got a record of it – you can do it when you're at home...start debating and getting lots of opinions on it" (participant 003)

"I always try to get my assignments read...my personal tutor, she'll hack it to pieces...it's good...it pushes you and makes it better" (participant 004)

Factor 6. Assessment feedback

All participants discussed the role of assessment feedback. This wasn't just seen as a single assessment but they felt it was important to take general comments from it to improve.

"yes, I always read it...it did give me areas where I could improve it and it commented on things they thought I'd got right" (participant 002)

"my internal motivation is 60% feedback...in the second year some of the feedback was about referencing so I've purposely gone out of my way and bought the cite it right book" (participant 004)

"I need to ask for more feedback if I want to get better grades and not just take what they've said and move on" (participant 006)

"I've had that a few times and purposefully tried to do it on the next one" (participant 004)

Feedback was not just formal from tutors on completed assignments but participants also sought help from others for proof reading or comments:

"when I've finished my work I send it to my mum and dad and they just, sort of check it"

Factor 7. Life management – general

Participants identified the multitude of commitments they have in addition to University and placement and made comments about how these were managed:

"placements have generally been very receptive if you need to work on something...as long as you are spending enough time with your mentor that it's fine on placement" (participant 006)

"my life has to be structured...I haven't got any help at home and everything has to be regimental, it has to be timed...I try to use this for my academic work as well...trying to have your personal life, have your academic life and some of us work...if I don't have structure...I kind of go off the rails" (participant 001)

Along with this participants felt the need to understand when and where they work best

"I'll come now [to uni] and again on a day off to use the library...I find it easier to work here at uni...just because of distractions" (participant 004)

Several participants have also commented that they avoid taking time away from University even during times when personal circumstances might escalate or become difficult as they feel this would take them out of the 'swing of things'.

Factor 8. Managing stress

Exercise was mentioned frequently but not always recognized as a stress management technique. However, three of the six participants mentioned exercise when explaining how they approached planning and assessment writing or taking a break from work:

"I go to the gym and go out and do other stuff" (participant 001)

"it might be a good idea to go running and do exercise before...there was some research saying that it was quite good [for stress] to do some exercise...I do quite a lot of exercise" (participant 005)

Other methods of managing stress included:

Removing themselves from the situation “counting to ten, sitting and thinking of things that are positive, look at it from someone else’s point of view and see the whole situation...just shut the lid and just said go to bed...I come back with a new perspective” (participant 002)

Making sure you take time for enjoying yourself and having a personal life was also identified as important.

Modifiable factors – university/staff

Prestwood & Schumann (no date) outlines the Art of Leadership for motivating and creating the ‘right’ environment for change that encompasses: encouragement, empowerment, enablement and ennoblement. CR emphasises the need to consider the most likely and appropriate theories that may explain a situation [13]. As the transcripts were read and re-read when analyzing the university/tutor behaviors it became apparent that this theory might be appropriate for application here. It is for the educator to facilitate a change in behaviors or outcome in order to promote success. To test this theory, codes were applied within the framework analysis and then attributed to the overarching themes in this model.

The common themes identified can be viewed in Figure 2

Development of a framework

A framework was developed that included:

- Determinants of behaviors – personal and external
- Factors and mechanisms as a result of these behaviors – behavioral and environmental
- Desired outcomes presented as overarching themes

The framework is illustrated in Table 3

The presentation of the framework in this format intends

to enable addition or amendments to each section as more is learned about the students and context.

Discussion

Much of the literature discussed previously is focused on non-modifiable factors on performance such as age, ethnicity, route of entry and gender. While this may inform recruitment and retention or early intervention for [potential] academic difficulties it is unlikely [and unfair] that academic teams will change recruitment methods to restrict entrance to a programme based on these factors. Therefore, identification of modifiable behaviors and desired behaviors that might improve the chance of success [good honors degree] has been identified within the framework proposed (Table 2).

All participants in this study have reported time management in assessments (factor.1) as an important factor for their success. Similar findings were reported in Ggweta [24], who directly attributed assessment preparedness and planned, timely study with academic success. In addition, support mechanisms and programme engagement have been identified as valuable. Frietas & Leonard [8], also support this, suggesting that staff should have mechanisms in place to signpost students to appropriate support mechanisms, learning communities, study groups, associations and promotion of social learning.

The framework presented found that students should engage with the programme and support systems available (modifiable factor.4). This reflects the work presented by Addus et al. [25], who found that students who seek support and feedback are more likely to achieve better grades. Conversely, this also informs actions required on the part of the University and academic staff. Support mechanisms provided at a school or college level were more likely to be used and show student improvement than those at university level. Ggweta [24], also found that radiography students who were able and willing to search for sources of literature and engaged with learning and reading outside of the classroom were more likely to be successful. This is also reflected the framework proposed here and might suggest that academic staff could also provide some steer with regards to self-directed study. Further to this Zyl & Baauw [26], conducted a study in order to improve student success and found that an extended induction and orientation process specifically aimed at support mechanisms and academic success is valued by students and may improve success. To improve student confidence in seeking support, staff should signpost encourage, enable and empower students to seek support and this is of particular relevance to those from black, minority and ethnic groups [1,2].

Attendance in the University has also been found to potentially enhance student success along with willingness to engage once there. McCarey et al. [27] and Salamonson et al. (2009) found that this was of value and this could indicate that academic staff should monitor and take action on attendance as early as possible and should explore methods by which to effectively monitor and take action on poor attendance. Conversely, there is evidence to suggest that monitoring of student performance and attendance regularly and as a

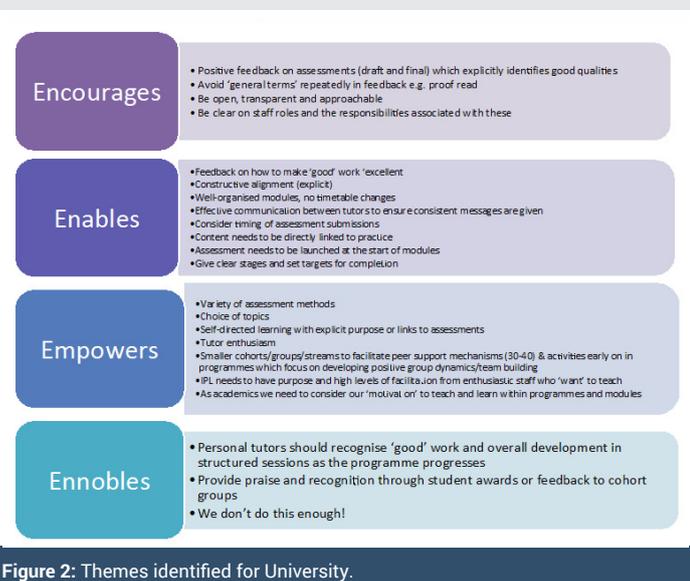


Figure 2: Themes identified for University.



Table 3: Framework of determinants, modifiable factors and thematic 'outcomes' with examples.

Determinants	Factors		Outcomes
<p>Personal</p> <ul style="list-style-type: none"> Attitudes towards academic assignments and learning Motivation to learn Approach to learning e.g. strategic, surface, deep Career aspirations Academic and study skills Previous experiences of learning and education Previous life and work experience Personal perceptions about skills Knowledge of support mechanisms and structures Attitudes and perceptions of 'stress' Stress management techniques Self-awareness Learning styles Perceptions of the relevance of content to nursing 	<p>Behavioural - Modifiable</p> <p>STUDENTS</p> <ul style="list-style-type: none"> Planning and effective time management. Start work early. Look at learning outcomes and marking criteria Stick to guidance and plans provided by module staff Focus on learning about the topic rather than grades or academic levels Drafting work and re-drafting Interaction with personal tutors and module tutors Extensive reading around topics related to assignments from the beginning and throughout modules Use the recommended reading list Utilize peer support Review previous feedback and feedback across programme Make best use of 'down time' e.g. using the library between classes and days where you are not required in the university Short sessions with regular breaks when working on writing assessments or reading <p>UNIVERSITY/TUTORS</p> <ul style="list-style-type: none"> Tutors being available and approachable Communication between tutors so that there is not repetition/ confusion Provision of choice Giving explicit and detailed enough feedback to improve grades from good to excellent Avoid solely giving general comments like "proof read" Review feedback and grades across years and programmes and look for common themes Provide explicit learning outcomes and suggested content Clear and consistent marking schemes so that the same advice is given by each tutor Giving feedback on drafts to improve even 'good' pieces of work Assessment deadlines across the programme 	<p>Non-modifiable</p> <p>STUDENTS</p> <ul style="list-style-type: none"> Experiences in education Learning difficulties e.g. dyslexia Genuine interest in the subject matter Ability to remember, retain information/ knowledge Intrinsic motivation of student to learn Age Previous life experiences Fear of failure Perceptions about 'grades' - seeing good marks as 'poor' 'self-critical' personality Response to stress Having a career plan or goal in mind beyond the programme upon entry 	<p>Achieve 'good' grades</p> <p>STUDENT</p> <ol style="list-style-type: none"> Effective time management Understand the module and the assessment purpose Focus on the topic/ programme not just the assessment Interact with the programme and support mechanisms/staff/ resource Utilize peer support mechanisms Assessment feedback: Review previous feedback – the whole rather than the parts Life management – general/make use of self-directed and non-timetabled time Manage stress <p>UNIVERSITY/TUTORS</p> <p>ENCOURAGE: "give support, confidence, or hope"</p> <p>ENABLE: "make something possible"</p> <p>EMPOWER: "authority or power given to someone to do something"</p> <p>ENNOBLE: "lend greater dignity or nobility of character to" referring to praise and pride in academic performance and nursing</p> <p><i>(Oxford Dictionaries, accessed 24APR2015)</i></p>



Determinants	Factors	
<p>External</p> <ul style="list-style-type: none"> Financial situation Family situation and support at home Practice placements Mentors University lecturers University facilities Parents/carers Partners 	<p>Environmental – Modifiable</p> <p>STUDENT</p> <ul style="list-style-type: none"> Ability to accept situational factors and problem solve e.g. internet access UNIVERSITY/TUTORS Timing of assessment submissions Assessment launched at the beginning of a module Self-directed learning should have identified outcomes/ outputs Offer a variety of assessment methods Making content relevant to nursing practice Inter-professional learning should encourage cross profession engagement Lifelong learning, use of reflection and topics which encourage learning throughout the career – relevance to practice Constructive alignment of teaching to assessment and learning outcomes Well organized modules which do not have timetable changes or bring students into university for sessions which are not taught or have clear learning outcomes to achieve 	<p>Non-modifiable</p> <ul style="list-style-type: none"> Student numbers Classrooms NMC/professional requirements Practice placements, shift work Work commitments Time Timetabling/resources Place they live Children and family environment Living at home or away from home Access to resources e.g. availability of library books Group dynamics Assignment submission systems University policy/academic timetables

whole [rather than assessment by assessment] on a semester basis [1,25]. In this study, participants saw the value in this ‘overview’ feedback and proposed that personal tutors may be best placed to do this. They also identified that this would enable comparisons to be drawn, student strengths and general areas for development to be identified.

Stress has been shown to be a factor that impacts on student performance, which has also been reported in this studies participants which has also been identified Addus et al. [25] and other literature. Here, several participants reported using exercise, which was linked to improved academic success in Mansfield et al. [28].

Participants here reported the importance of understanding the module and its requirements in order to do well in assessments. Conversely, Ofori & Charlton [1], emphasized the need to ensure that assessments were of appropriate difficulty for the academic level along with constructive and detailed feedback. Many of the participants here expressed a lack of confidence and self-criticality in their performance. Improving student confidence means an increased likelihood of securing employment; conversely confidence has been linked to academic success [29]. Academic staff may consider the methods by which to encourage, enable, empower and ennoble students in order to facilitate the improvement of confidence.

Limitations

This is a small and limited study with 6 participants.

However, this does favour the intensive research strategy suggested in critical realism [14], the overarching models and themes are transferable and able to be adapted based on individual situations and organizations in the absence of similar models being available. In order to strengthen the transferability of the model a longitudinal study across several sites may be required.

Participants were from White-British origin that may limit the interview findings. However, the framework developed should be adaptable and added behaviors, actions and themes are possible as it is utilized in different contexts.

Conclusion and Recommendations

The factors that impact on student success are multiple and complex, behaviors and actions of both students and staff can help to improve this.

There are a wide range of modifiable factors that have been identified that may influence the success of pre-registration nursing students. Conversely, there are actions that the University and academic staff can consider if they are to improve success. Some of the findings here are not completely new but this is the first time research has proposed a critical realist framework that can practically be applied and adapted in a range of environments. It may form a baseline to inform improvements or where further research is required

in particular contexts and can be used flexibly by students or staff. It is acknowledged that this framework is a basis in going forward and the list of modifiable factors is not exhaustive but a starting point for knowledge. The recommended use of this model may be as an assessment tool, prompting students and academic staff to reflect on and consider how they may meet their student needs, along with the available research evidence that might indicate appropriate and best practice methods, relevant to their own context and need.

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