

RESEARCH ARTICLE

## Academic Support at the University of KwaZulu-Natal: A Systematic Review of Peer-Reviewed Journal Articles, 2010–2015

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### *Abstract*

*The aim of this systematic review was to examine research studies which focus on effective student support practices and show evidence of credible assessment. To identify effective student support practices, and also to provide a contemporary picture of effective support practices at the University of KwaZulu-Natal, 24 studies which met the inclusion criteria were reviewed and analysed in terms of: (i) aims, (ii) main participants, (iii) methodology used and (iv) the main outcomes emerging. The findings from the review indicate that there is a diversity of available evidence, ranging from assessment of peer support programmes, alternative access programmes to curriculum-based interventions. However, most of these studies are cross-sectional qualitative studies, which also draw from relatively small samples. This suggests that more large-scale studies are needed in the field in order to provide greater insight into effective student support practices. In addition, research which examines academic support programmes over long periods of time while also controlling for programme effects is recommended.*

### *Keywords*

*student support; academic monitoring and support; systematic review*

### *Introduction*

Retention and throughput in higher education is a global problem. In the South African context, the literature available (see Cloete, 2016; Scott, Yeld & Hendry, 2007) indicates that high attrition rates are severe for the “previously disadvantaged” students. Whilst access to higher education has improved for these students, it is widely believed that in terms of progression, students from educationally disadvantaged backgrounds continue to lag behind their counterparts from the more advantaged contexts (Fisher & Scott, 2011; Scott et al., 2007). At the University of KwaZulu-Natal (UKZN), such concerns have led to the establishment of the Academic Monitoring and Support (AMS) policy framework which was implemented in 2006 with the principal aim of enhancing the quality of teaching and

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learning. From this broad policy, all four Colleges<sup>1</sup> at the University of KwaZulu-Natal have since 2009 developed innovative strategies for implementation of interventions for academic success, funded to a large extent through the Teaching Development Grant from the Department of Higher Education and Training (DHET) (University of KwaZulu-Natal Quality Enhancement Project Report 2015).

The 2010 Academic Monitoring and Support (AMS) Report revealed that academic support interventions were compulsory for all students at the UKZN and most Colleges made extensive use of the Academic Development Officer (ADOs) in their monitoring and support activities. However, of concern was the relative “instability” of the support system because it was primarily staffed by ADOs on short-term contracts. It was also found that despite the substantial investment and the institutional support for academic monitoring and support, the graduation rate had continued to decline from 20% in 2006 to 17% in 2009 with some academic programmes experiencing higher dropout and exclusion rates than graduations. In 2011, the Quality Promotions and Assurance (QPA) office together with external evaluators conducted an audit of the AMS programmes at the university. The report highlighted several functional systems and practices in place in the four Colleges. These included the positive attitude, dedication and commitment of the staff involved in the AMS programmes, every College having some form of mentorship system and the contribution of senior academic staff to the AMS programme at both School and College level. However, substantial variations were also reported with respect to practices, and the conceptualisation of some of the roles and responsibilities of AMS personnel.

According to Hammond, Thorogood, Jenkins and Faaiuas (2013), supporting and enhancing the diversity of our students requires that all of our institutional aspects – philosophies, strategies and structures, policies, processes and practices, and particularly our learning and teaching approaches and related support delivery – are integrated, coordinated and intentional in aid of student learning, engagement and success. However, the evidence that supports and informs student support interventions and innovations remains largely theoretical (Boughey, 2010), while the available empirical evidence is dispersed across several fields. Thus, it is unclear which of these approaches to student support may have efficacy or impact (Mann, Gordon & MacLeod, 2009). To address these concerns, this study aimed at identifying and bringing together evidence of academic support practices in the four Colleges at UKZN that show promise of good practice, credible assessment and have a positive impact on student success. It is anticipated that the results of this review will inform the development of a more coherent institutional academic support programme where Colleges can adapt to/adopt other learning contexts or colleges’ support structures while maintaining their autonomy and flexibility.

The specific question that this review sought to answer is: What are the credible and effective student support practices at UKZN that have inculcated assessment into support practice/programmes?

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<sup>1</sup> There are four Colleges at the University of KwaZulu-Natal. These are the College of Agriculture, Engineering and Science (AES); Law and Management Studies (LMS); Health Sciences (HS) and Humanities.

### *Systematic Review as Conceptual and Methodological Framework*

Denyer and Tranfield (2006) state that the need for research synthesis can only be appreciated when one understands that for gains in scholarship to be cumulative, there must be a link between past and future research. This is what this study sought to accomplish by bringing together research on academic support in an effort to better understand, and also provide a link between past and future research. A systematic literature review can be defined as a method of critically appraising, summarising and attempting to reconcile existing research on an issue of concern (Hallinger, 2013). Hence it is a “secondary research activity which reviews primary and secondary research in attempt to take stock of what is known in a particular field,” (Andrews, 2005a, p. 207). Literature reviews have been used in research for many years and have formed part of every sound research project (Berg, 2007). However, what distinguishes a systematic literature review is that it is a review of the evidence from clearly formulated questions that uses systematic and overt methods to identify, select and critically appraise relevant primary research in a way that is explicit, transparent, replicable, and accountable (Andrews, 2005a, 2005b). A more general literature review on the other hand, uses selective, less systematic approaches to identify relevant sources and to extract and analyse data from the studies that are included in the review (Andrews, 2005b).

Research reviews play a crucial role in the advancement of knowledge by highlighting milestones of progress along particular lines of inquiry (Hallinger, 2013). It is argued that well-crafted reviews identify blind spots, blank spots and intellectual “dry wells” in the landscape of theory and empirical research (see Andrews & Harlen, 2006; Hallinger & Heck, 1996; Bridges, 1982). In summary, research reviews enhance the quality of theoretical and empirical efforts of scholars to contribute to knowledge production (DeGeest & Schmidt, 2010; Shemilt, Mugford, Vale, Marsh, Donaldson & Drummond, 2010; Gough, 2007).

#### **Need for undertaking the review**

Boughey (2010) notes that although great strides have been made in academic development over the past 25 years, there has been a tendency to rely on common sense rather than theory and evidence when it comes to forms of support available. This is mainly because academic support/development is an under-researched field which is often located on the periphery of institutional life. In other words, academic support is a shadow world in higher education which often goes unnoticed, yet, the findings from this research have potential benefits for student retention and success. Boughey (2010) further notes that the field has been highly contested and continues to evolve in line with the changing nature of higher education. The four AMS colloquia conducted at UKZN since 2013 have also revealed that there is fragmentation in roles and responsibilities of AMS staff as well as in the AMS activities. This fragmentation is worsened by the fact that there have not been rigorous evaluations of the AMS activities, a situation which has limited the impact of support interventions to contribute to the improvement of the teaching and learning context. Moreover, there are concerns that many students do not in fact graduate, either dropping out, or being excluded due to finances or exceeding the limit of enrolment for

their programme (Pocock, 2012). This makes it all the more urgent to initiate a study which consolidates all the studies in the field in order to identify the gaps in the field. In essence, this study is accordingly an attempt to provide an authoritative synthesis of research that can be used to inform academic support.

### **Selection of interventions**

A defining feature of a systematic review is that it uses transparent procedures to locate and appraise research. The parameters and procedures must be clearly defined beforehand to ensure that they can be replicated. In this way, systematic reviews have the potential to minimise bias (Bearman & Phillip 2013; Petticrew & Roberts, 2006). The studies included in the review are screened for quality, so that the findings of many studies can be combined.

For this review, we defined “academic support” as interventions by staff categorised as AMS staff, or by mainstream academics meant to improve students’ academic performance. We assessed academic support research in terms of:

- What kinds of support are being provided?
- Where is the support provisioning happening (location, discipline)?
- Who is receiving the support?
- How is the efficacy of the support being assessed?
- How is the support positioned in relation to the curriculum?

Data was extracted from peer-reviewed journal articles written between 2010 and 2016. In scanning the literature on credible support practices, the following were taken into consideration:

- Efficacy/reliability of the programme.
- Clarification of good practices at institutional level/college level.

This was considered in terms of how institutional- and college-level practices compare. The following databases were utilised in scanning literature on student support: SABINET, EBSCO Host, JSTOR. The key words for database search were: “UKZN and student support”, “UKZN and academic support”, and “UKZN and academic support and student support and student success”.

A general principle in a systematic review is to set criteria for the inclusion and exclusion of studies. This helps to define the parameters of the research, thereby avoiding straying into areas that are off-centre and closing other areas that might have been relevant (Andrews, 2005a). Accordingly, the following eligibility criteria (for selection of literature) were exploited in searches:

- English
- Peer-reviewed journal
- UKZN based
- 2010–2016
- Both quantitative and qualitative studies
- UKZN undergraduate and postgraduate students

Both authors of this paper also reviewed and checked the journal articles. To avoid bias, a third reviewer was engaged to review articles that were written by the authors. The third reviewer also acted as a moderator in cases where there was disagreement in the interpretation of the findings of the studies. We anticipated gaining knowledge with respect to support practices at UKZN, particularly in regard to gaps and areas of over-subscription in the provision of support, new types of practices and/or development of assessment capabilities. We also expected that this systematic review of literature would reveal the most likely points of integration in developing a coherent Student Support Programme at UKZN.

## *Results and Discussion*

### **Search results**

Our initial search using the keywords located 269 studies. After reading the abstracts, 220 studies were excluded because they were either not located at UKZN, or did not fit the strict definition of support as adopted in this study. Hence, 49 articles remained after abstracts were screened. The next step was to read the methodology and results sections of the studies. This led to a further exclusion of 25 studies which were either theoretical papers, did not focus on an intervention, or simply provided a descriptive analysis of students' performance. Thus, the final sample of included studies was 24 as shown in Table 1.

### *Overview of Studies*

Table 1 provides a summary of the interventions available in the four Colleges at the UKZN. The analysis is organised into five components.

- Study population
- Description of the interventions
- Methodological aspects
- Positioning of interventions in relation to the curriculum
- Evidence of strengths and limitations

### **Study population**

The included studies reported interventions for students at different levels of study as well as academic performance. Some focused on 'at-risk students', postgraduate students or undergraduate students taking different modules in specific academic programmes. Only a few of the studies (seven) did not mention the number of subjects sampled.

### **What kind of support is being offered?**

The studies reviewed demonstrate that academic support programmes have been used extensively in all the four colleges at UKZN. Specific interventions include:

- (i) Peer learning-based interventions
- (ii) Alternative access interventions

- (iii) Curriculum-based interventions
- (iv) Professional discipline

*(i) Peer learning-based interventions*

The key support programme in the College of Agriculture, Engineering and Science is the Supplemental Instruction (SI) “which is a peer facilitated academic support programme that targets historically difficult courses so as to improve student performance and retention by offering regularly scheduled out of class review sessions,” (UMKC SI Homepage). A modified version of the programme – peer teaching/learning experience programme (PTLEP) – has also been introduced in the School of Life Sciences, College of AES. Both the SI and PTLEP programmes have been extensively evaluated through journal publications (five articles). Most of the evaluations have focused on students’ perceptions and experiences of SI (Bengesai, 2011; Paideya, 2011), SI as a social learning space (Paideya, 2011; Paideya & Sookraj, 2011), as well as the efficacy of the intervention as measured by pass rates and students’ perceptions (Hakizimana & Jurgens, 2013). Attendance patterns have also been explored (Bengesai, 2011). Taken together, this research has shown that peer-based learning encourages collaborative learning and provides a conducive and non-threatening space for student engagement.

*(ii) Alternative access programmes*

The alternative access programmes cater for students from disadvantaged educational backgrounds whose matriculation points or Maths and English grades are slightly lower than the entry requirements (Maphosa, 2014). These programmes have been necessitated by the changing nature of higher education which has seen non-traditional students gaining access to higher education. There are different forms of access programmes such as ‘bridging or Foundation programmes; add on or Augmented programmes’ (Maphosa, 2014; Boughey, 2010).

In the Augmented programmes, students are admitted into the first-year Bachelor’s programme which is spread over two years. Hence, they register for both the mainstream programme and additional (augmented) modules, but the duration of the programme is made longer because of additional academic interventions (Zikhali & Bokana, 2013). Thereafter, students carry the normal load for their degrees. In other words, students will take a minimum of four years to complete a three-year Bachelor’s degree.

The Foundation or bridging programme aims to provide a foundation for students with lower matric points. The aim is to facilitate access to tertiary education for motivated learners who have the will and potential to succeed (National Plan for Higher Education, Department of Education, 2001, p. 23). Unlike the Augmented programmes, Foundation programmes are adjunct, pre-first year and separate from the mainstream programme (Maphosa, 2014). The curriculum content is preparatory to the regular first year level courses in the mainstream and students take modules which assist in the development of academic literacy, as well as other skills required in subsequent first year level modules.

In the papers reviewed, four (4) alternative access programmes were investigated. These are the Bachelor of Science (BSc) Foundation Programme (Kirby & Dempster, 2011); Bachelor of Science Augmented Programme (Chetty, 2013), the Bachelor of Commerce (BCom) Augmented Programme (Zikhali & Bokana, 2013; Wildsmith-Cromarty & Steinke, 2014). Govender (2014) investigated successful students who started their university education through different access programmes at the University of KwaZulu-Natal, including the Humanities Access Programme. The focus of two (2) of the studies which investigated alternative access programmes has been on specific interventions within the curriculum – problem-based learning, (PBL) in BSc Augmented Physics (Chetty, 2013), and evaluation of a teaching methodology in the BSc Foundation Biology (Kirby & Dempster, 2011). Zikhali and Bokana's study compared the performance of BCom Augmented students with mainstream students and concluded that their performance was not significantly different from the mainstream students. The focus of Wildsmith-Cromarty and Steinke's study was on the efficacy of an academic literacy intervention in improving students' reading abilities.

### *(iii) Curriculum-based interventions*

Academic support has always been on the margins of institutional life with support being provided by practitioners who are not mainstream academic staff (Bouhey, 2010). This has created historical divisions between mainstream academics and academic support staff. While academic support has provided greater access, there have been concerns that this has not translated into greater success for students. Consequently, there have been calls for a shift away from academic support as marginal to the curriculum to interventions that are embedded in the curriculum (Maphosa, 2014) since the curriculum is situated within a discipline which determines the socio-cultural, cognitive, and disciplinary norms and values. At the University of KwaZulu-Natal, curriculum-based interventions have been supported through the University's Teaching and Learning Office's (UTLO) Competitive Research Grant (UKZN QEP Survey, 2015) which has seen mainstream staff designing innovative strategies to improve teaching and learning. Further, the launch of the University Teaching and Learning Conference in 2006 has resulted in the development of the scholarship of teaching and learning within the university, and encouraged academics to conduct research on their teaching.

Curriculum-based interventions have been investigated in Management Studies (Arbee & Samuels, 2015; Tang, 2011; Ranjeeth et al., 2011); Engineering (Jairos et al., 2013); Physics (Chetty, 2013) and Humanities (Govender & Dhunpath, 2011; De Lange et al., 2011). In Engineering and Physics the focus has been curriculum re-design to meet students' and industry needs, while in Management Studies, Arbee and Michaels' study focused on the impact of the writing centre on students' academic writing. Tang (2011) and Ranjeeth et al. (2011) both adopted innovative teaching methods in existing curricula to help students better understand the curriculum. Two studies focused on postgraduate support, (De Lange et al., 2011; Govender & Dhunpath, 2011). Both these studies investigated the effect of the

cohort model of supervision on developing scholarship and reflective practice among PhD candidates in the College of Humanities.

Innovative teaching methods have also been implemented in the College of Health Sciences and evaluated through peer-reviewed research. The interventions that have been researched include the use of isiZulu videos (Diab et al., 2016) and tutorial groups in a problem-based learning (PBL) environment (Singaram et al., 2010). Diab et al. investigated medical students' perceptions of simulated isiZulu videos in the development of communicative competence in isiZulu. In the medical field, communication between patients and medical professionals is imperative and hence practitioners should be proficient in the language understood by the patient (Diab et al., 2016). Apart from language acquisition, Diab et al. found that the simulated videos also led to cultural awareness, which is also important in patient-doctor relationships. The study by Singaram et al. found that while PBL had the potential to facilitate collaborative learning, it also presented a challenge to some students who struggled to cope with the diversity in the groups.

Table 1: Evidence map of published research on academic support at the University of KwaZulu-Natal, 2010–2016

Ref	Authors	Intervention	Setting	Population	Study Focus	Study Design	Co-curricular/ Intra-curricular	Outcomes
1.	N. Chetty (2014)	Augmented/ Add on programme	College of AES	70 BSc Augmented Students	<ul style="list-style-type: none"> <li>Pass rates</li> <li>Evaluation of programme</li> </ul>	<ul style="list-style-type: none"> <li>Pre-test, post-test</li> <li>Longitudinal</li> <li>Quantitative</li> </ul>	Intra-curricular	<ul style="list-style-type: none"> <li>Identification of problem areas for students</li> <li>Implementation of measures to address these problems</li> <li>Improved performance of students</li> </ul>
2.	S. Hakizimana & A. Jürgens (2013)	Peer Teaching/ Learning Experience Programme (PTLEP)	College of AES	2698 (repeat enrollments)	<ul style="list-style-type: none"> <li>Pass rates</li> <li>Attendance</li> </ul>	<ul style="list-style-type: none"> <li>Survey</li> <li>Classroom observations</li> <li>Longitudinal</li> <li>Quantitative</li> </ul>	Co-curricular	Peer teaching/learning improves attendance patterns, encourages student participation, motivates students, and improves pass rates.
3.	S.B. Higgins- Opitz & M. Tufts (2014)	Early identification of at-risk students	College of HS	214 students	Profiling background factors impacting on academic performance	<ul style="list-style-type: none"> <li>Pre-test, post-test</li> <li>Survey</li> <li>Cross-sectional</li> <li>Quantitative</li> </ul>	Intra-curricular	Student performance in the first-class test is a valuable tool to identify struggling students and should be held as early as possible.
4.	M. Jairo, D. Stretch & C. McLeod (2013)	Curriculum redesign	College of AES	Students taking the Civil Engineering Design Project module	Modification of curriculum to meet industry needs and comply with regulatory body	<ul style="list-style-type: none"> <li>Design</li> <li>Cross-sectional</li> </ul>	Intra-curricular	Exposing Engineering graduates to a deeper conceptual approach to engineering design addressing social, ethical and environmental concerns.
5.	V. Paideya (2011)	Supplemental Instruction	College of AES	First-year students attending Chemistry 15 SI sessions	How does SI leader intervention enhance first- year engineering students' "critical thinking skills" in Chemistry learning	<ul style="list-style-type: none"> <li>Design research methodology</li> <li>Observations</li> </ul>	Co-curricular	SI encourages collaborative learning engagement, encouraged students to reflect on concepts learnt and creates social spaces which are conducive for learning

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Ref	Authors	Intervention	Setting	Population	Study Focus	Study Design	Co-curricular/ Intra-curricular	Outcomes
6.	A. Bengesai (2011)	Supplemental Instruction	College of AES	15 Engineering students	Engineering students' experiences of Supplemental Instruction	<ul style="list-style-type: none"> <li>Qualitative Interviews</li> <li>Attendance registers</li> </ul>	Co-curricular	SI can potentially provide positive social learning spaces, encourage collaborative learning and enable students to effectively engage with content. The programme also has the potential to create over-reliance on support.
7.	V. Paideya & R. Sookraj (2011)	Supplemental Instruction	College of AES	First-year students attending Chemistry 15 SI sessions	Student engagement in SI sessions	<ul style="list-style-type: none"> <li>Design research methodology</li> <li>Observations</li> </ul>	Co-curricular	SI creates social learning spaces which encourage students to ask questions, and seek explanations and conceptual understanding. It also enables reflective thinking.
8.	S. Pillay & A. Maharaj (2011)	Collaborative learning	College of AES	Foundation students	Students' experiences	<ul style="list-style-type: none"> <li>Cross-sectional</li> <li>Interviews</li> </ul>	Intra-curricular	Through collaborative learning, students develop social and team learning skills. Further, the intervention is linked to improvement in student performance in Maths.
9.	D. Sibanda & K. Jawahar (2012)	Classroom-based mentoring	College of Humanities	163 In-service teachers	The impact of the school visit mentoring support	<ul style="list-style-type: none"> <li>Questionnaire, written submissions</li> <li>Classroom observations</li> </ul>	Co-curricular	The school visit mentoring programme enhanced in-service teachers' teaching skills in MST subjects.
10.	J. Zikhali & K. Bokana (2013)	Augmented/ Add-on programme	College of LMS	95 BCom Augmented students	Programme evaluation	<ul style="list-style-type: none"> <li>Secondary analysis of pass rate data</li> <li>Longitudinal</li> </ul>	Programme evaluation	The performance of students who came into university through the Augmented/ alternative access programme is not significantly different from those who enrolled in the mainstream programme.

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Ref	Authors	Intervention	Setting	Population	Study Focus	Study Design	Co-curricular/ Intra-curricular	Outcomes
11.	Z. Bulbulia & J. Wassermann (2015)	Usefulness of Twitter in higher education	College of LMS	21 Students	Usefulness of Twitter in higher education	<ul style="list-style-type: none"> <li>Design-based research.</li> </ul>	Co-curricular	There was a low uptake of Twitter as an alternative method of academic support, suggesting students prefer more traditional face-to-face forms of academic support.
12.	M.J. Savage, M.G. Abraha, N.C. Moyo & N. Babikir (2014)	Innovative teaching methods	College of AES	63 Students	To enhance teaching and learning in agrometeorology and allied disciplines, a web-based data and information system was developed	<ul style="list-style-type: none"> <li>An open-ended questionnaire</li> </ul>	Intra-curricular	Web-based teaching encourages students to learn more quickly, improves visual literacy, and improves their ability to manipulate data.
13.	A. Arbee & M.A. Samuels (2015)	Writing centre Academic literacy	College of LMS	368 Students	Measuring the impact of writing place support on student performance	<p>Longitudinal Quantitative</p> <p>Pass marks</p> <p>Attendance registers</p>	Intra-curricular	WP users performed better on average than WP non-users.
14.	C.R. Kalenga & S. Mngomezulu (2015)	At-risk students	College of Humanities	107 Students	Psycho-social challenges faced by students at risk of academic failure	<p>Cross-sectional</p> <p>Qualitative Interviews</p>	Co-curricular	Psychosocial problems are associated with students' at-risk status. However, with practical intervention strategies, these students can improve their academic performance.
15.	S. Mngomezulu & L. Ramrathan (2015)	At-risk students	College of Humanities	12 Students	'At-risk' students' experiences of academic support	<ul style="list-style-type: none"> <li>Cross-sectional</li> <li>Qualitative</li> <li>Interviews</li> </ul>	Co-curricular	Being notified of risk status causes a flurry of emotional and psychological reactions in students such as shock, disbelief, demotivation, and anger.

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Ref	Authors	Intervention	Setting	Population	Study Focus	Study Design	Co-curricular/ Intra-curricular	Outcomes
16.	S. Govender (2014)	Access programmes	University of KwaZulu-Natal	16 Students	Successful students who started in access programmes	<ul style="list-style-type: none"> <li>• Cross-sectional</li> <li>• Qualitative interviews</li> </ul>	Programme evaluation	Knowledge and skills they had learnt during the access programme had enhanced their reception of the mainstream modules.
17.	N.F. Kirby & E.R. Dempster (2011)	BSc Foundation programme	College of AES	BSc Foundation students	Philosophical and pedagogical approaches in Foundation programme	<ul style="list-style-type: none"> <li>• Theoretical study</li> </ul>	Programme evaluation	Curriculum development in the foundation programme should take on a more reflexive approach, which takes into consideration feedback from all stakeholders, including students.
18.	N. de Lange, G. Pilla & V. Chikoko (2011)	Support for postgraduate students	College of Humanities	35 Students	Cohort model of supervision	<ul style="list-style-type: none"> <li>• Longitudinal</li> <li>• Qualitative</li> <li>• Programme evaluation forms</li> </ul>	Intra-curricular	The cohort model is a supportive practice which encourages active participation and relationship building, develops reflective skills and belongs to a community of practice.
19.	V. Tang (2011)	Innovative teaching	College of LMS	205 Students	Effectiveness of a cognitive-constructivist approach to teaching and learning economic concepts	<ul style="list-style-type: none"> <li>• Longitudinal</li> <li>• Quantitative observations</li> <li>• Class observations</li> <li>• Examination results and questions</li> <li>• Survey</li> </ul>	Intra-curricular	The approach resulted in more student engagement and also improved their analytic and creative skills.
20.	S. Ranjeeth, A. Marimuthu & M. Maharaj (2013)	Innovative teaching	LMS	135 students	Pedagogical implications of using the agile approach as part of an academic programme	<ul style="list-style-type: none"> <li>• Cross-sectional</li> <li>• Survey</li> <li>• Quantitative</li> </ul>	Students' evaluation or teaching method	There was high acceptance of the pedagogical aspects of the teaching method among students.

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Ref	Authors	Intervention	Setting	Population	Study Focus	Study Design	Co-curricular/ Intra-curricular	Outcomes
21.	P. Diab, M. Matthews & R. Gokool (2016)	Innovative teaching	HS	Final-year students in their Family Medicine rotation	To explore students' views on the use of videos of simulated clinical scenarios for isiZulu communication and language teaching, and the development of cultural awareness	<ul style="list-style-type: none"> <li>• Cross-sectional</li> <li>• Videos</li> <li>• Students' comments</li> </ul>	Intra-curricular	Teaching with simulated videos not only improved medical students' communicative competence, it also had the added benefit of helping them develop cultural awareness.
22.	V.S. Singaram, C.P.M. van der Vleuten, E. Steven & D. Dolmans (2010)	Innovative teaching methods	HS	31 (11 Tutors and 20 students)	Students' perceptions of problem-based learning	<ul style="list-style-type: none"> <li>• Focus group interviews</li> <li>• Qualitative</li> </ul>	Intra-curricular	While collaborative learning enhances student interaction, the heterogeneity makes some students fail to cope with those different from them.
23.	K. Govender & R. Dhunpath (2011)	Support for postgraduate students	Humanities	12 Students	Students' experiences of the PhD cohort model	<ul style="list-style-type: none"> <li>• Cross-sectional</li> <li>• Seminar sessions</li> <li>• Questionnaire responses</li> <li>• Focus group discussions</li> </ul>	Programme evaluation	Cohort provided opportunities for deep research learning, superseding those provided by the traditional model alone. Students experience power dynamics between supervisors in the cohort.
24.	R. Wildsmith- Cromarty & K. Steinke (2014)	AL in an access programme	Humanities	10 Students	Efficacy of R2L approach in an access programme	<ul style="list-style-type: none"> <li>• Pre-test, post-test</li> </ul>	Intra-curricular	R2L can make a difference to the academic literacy levels of students at tertiary level.

#### *(iv) Professional discipline*

Most of the academic support programme interventions reviewed through research are in the College of Agriculture Engineering and Science. Nine of the twenty-four papers reviewed reported interventions in Engineering (4); Physics (1); Agrometeorology (1); Life Sciences (2); and Mathematics (1). Three of the studies were located in the College of Health Science, five in Management Studies and six in Humanities. Only one study focused on a university-wide intervention (Govender, 2014).

### **Methodological quality of the studies**

#### *Study aims*

Although all the studies reviewed stated their aims, some were stated quite broadly (for example, to revisit the philosophical and pedagogical perspectives upon which a curriculum is based, e.g. Kirby & Dempster, 2011; or to broaden the conceptual approach to engineering design, Jairos et al., 2013). Some of the studies, however, provided specific objectives and research questions, for instance: the use/non-use of the writing centre is linked to students' grades on an assessment task (Arbee & Michael, 2015); to evaluate whether the initiative improved the attendance (Hakizimana & Jürgens, 2013). It is also important to note that most of the studies located their work within a conceptual or theoretical framework, primarily drawing upon principles such as collaborative/peer learning, curriculum design, and reflective practice.

#### *Study design*

Of the 24 papers reviewed, six (6) were longitudinal studies and 18 cross-sectional studies. Two (2) employed a pre-test- post-test design, four (4) a design-based design, while the rest used qualitative interviews, questionnaires, or classroom observations.

#### *Data collection methods*

Methods to evaluate academic support programmes included questionnaires to assess attitudinal and cognitive change, classroom observations, and archival data such as attendance registers and test/exam scores, as well as interviews. Questionnaires (6) were the most popular method of data collection, although this was used in conjunction with other methods. This was followed by interviews (used in six studies). Four studies included classroom observations. However, in most of the studies, the response rates or samples were too low to provide generalisable findings.

#### *Positioning of interventions in relation to the curriculum*

Another way of evaluating academic support programmes is to consider their positioning in relation to the curriculum. In this study, we have identified two categories of academic support programmes, i.e. those which are intra-curricular – located in the curriculum, or co-curricular – defined by their separation from academic courses. Out of the 24 studies reviewed, eight (8), (Mngomezulu & Ramrathan, 2015; Kalenga & Mngomezulu, 2015; Bulbulia & Wassermann, 2015; Hakizimana & Jürgens, 2013; Sibanda & Jawahar, 2012;

Paideya, 2011; Bengesai, 2011; Paideya & Sookraj, 2011) were classified as co-curricular as they focused on interventions such as Supplemental Instruction, peer-based learning and academic and psycho-social support for 'at-risk' students. Twelve (12) of the studies (Diab et al., 2016; Arbee & Samuel, 2015; Savage et al., 2014; Wildsmith-Cromarty & Steinke, 2014; Wildsmith-Cromarty & Steinke, 2014; Higgins & Jurgens, 2013; Chetty, 2013; Jairos et al., 2013; Ranjeeth et al., 2013; Tang, 2011; De Lange et al., 2011; Pillay & Maharaj, 2011; Singaram et al., 2010) can be classified as intra-curricular as the interventions focused on redesigning the curriculum, use of innovative teaching methods or profiling students within the curriculum. The high number of studies classified as intra-curricular can be attributed to UKZN's Teaching and Learning office's focus on the development of academics as teachers and researchers (QEP UKZN Report, 2015). The establishment of the Teaching and Learning as a cross-cutting executive portfolio, elevates teaching as a key and central pillar of the University on par with research (QEP UKZN Report, 2015, p. 7).

There were also studies that could neither be described as co-curricular nor intra-curricular. These studies focused on evaluating a programme (Govender, 2014; Zikhali & Bokana, 2013; Kirby & Dempster, 2011; Govender & Dhunpath, 2011). Two of the studies evaluated access programmes in Science (Govender, and Kirby & Dempster) and Law and Management studies (Zikhali & Bokana). Govender and Dhunpath's study focused on the cohort programme for the PhD programme in the College of Humanities while Govender's study examined the extent to which access programmes were preparing students for mainstream studies.

**Table 2: Summary of evidence of impact on student success and engagement**

Impact on student success		
Strengths	Studies are practical and applied.	Studies are exploratory, practical and applied.
Promising evidence	Limited evidence based on pass marks and small numbers.	
Limited evidence	Limited evidence based on students' perceptions of their own performance.	
More needed	More research is needed to understand the impact of academia on student success. There are vast amounts of data that are often collected in AMS programmes such as attendance data which can be supplemented with institutional data available through institutional systems.	
Impact on student engagement		
Strengths	SI/Peer learning provides a social learning space where students can engage with and gain better understanding of concepts.	Studies are exploratory, practical and applied.
Promising evidence	AMS programmes (such as STAR programme, SI, ADOs) provide a space for students to interact with their peers.	
Limited evidence	Determinants of student participation in AMS.	
More needed	Rigorous evaluation of programmes to look at diverse factors impacting on student engagement, e.g. self-selection, and more quantitative analyses.	

Table 2 maps the evidence derived from this review under two broad categories: (i) impact on student success, and (ii) impact on student engagement.

### *Strengths of the Study*

The strength of findings was rated using the following specific anchors: clear conclusions stated and can be drawn from the findings, methods are clear and the sample is representative.

Looking at the available evidence (Table 1 and 2), the following strengths can be identified.

1. There is a diversity of studies that have evaluated academic support programmes at the University of KwaZulu-Natal since the inception of the AMS policy. This diversity of studies from the four Colleges provides a methodological and research focus foundation from which future research can improve.
2. There is adequate evidence of the efficacy of peer-based interventions in supporting student learning, although the evidence base has been mainly qualitative.
3. There is evidence of programme evaluation from which other academic support programmes in the university can learn. The available evidence focuses mainly on the alternative access programmes.
4. Most of the research reviewed is applied and practical. Hence, the studies provide tangible measures of the impact of the interventions on students' success.

### *Limitations of the Study*

The present study made use of secondary data in the form of journal articles. Although the authors endeavoured to locate all articles on academic support published during the time frame given, there is a possibility that some articles that did not have the keywords used in the search criteria were omitted. Moreover, the studies included were written between 2010 and 2016. Therefore, studies on academic support published prior to this period were omitted. Another limitation in this study relates to the small sample size (24 journal articles). This small sample makes it difficult to sufficiently identify trends in academic support research. Hence there is need for more research that will include other forms of publication such as conference proceedings, theses and dissertations, and college-based reports.

The limitations are as follows:

1. Most of the studies are small scale and focus on individual interventions with small groups of students. Ten out of the 24 studies had samples of less than 100 students, with some as low as 10 students, while in seven of the studies the sample is not mentioned.
2. While there is diversity in study focus, this is counterbalanced by the fact that most of the studies use the same methods (interviews or questionnaires).
3. Most of the studies are cross-sectional studies, which makes it difficult to measure the impact of the programmes over a long period.
4. The available evidence highlights the effects of the programmes and not the changes resulting from the intervention. This is largely because there are no baseline measures (such as pre-tests, only two studies had baseline measures) from which to explore.

5. Most of the available support focuses on learning, and there is silence on teaching.
6. There is little evidence regarding the wider factors influencing students' uptake of academic support or the success of an academic support programme.

### *Future research*

- The capstone academic support programmes at the UKZN are the ADO initiative and peer learning (QEP report 2015). There is a need for research that investigates the former, examining the effect of academic counselling on student support.
- Research needs to move away from snapshot measures of efficacy to more longitudinal assessments of support.
- There are vast amounts of data produced through the institution's information systems which can be used to complement data gathered through academic support programmes. Through these data, the efficacy of AMS can be examined to provide university-wide measures of what works.

### *Conclusion*

The purpose of this review was to examine research studies which showed evidence of credible assessment of academic support programmes at UKZN. The sample was taken from studies conducted between 2010 and 2016. The findings show that there is a diversity of available evidence, ranging from assessment of peer-support programmes, alternative-access programmes to curriculum-based interventions. However, most of these interventions are located in one College. The assessment is also largely based on small cross-sectional studies with no evidence of baseline measures (except for two studies). There is need for research which focuses on examining programmes over a long period of time while also controlling for programme effects.

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