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Research article

The case for an integrated approach to transition programmes at South Africa's higher education institutions

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Abstract

This paper advocates an integrated approach to transition programmes at South Africa's higher education institutions through drawing on the US literature on the first-year student experience and specific reference to behavioural interaction theory. The case for developing intentional and vertically integrated transition programmes is tied to: the need to understand the desired behaviours and learning outcomes at each stage of a student's experience; an appreciation of the cognitive, psychosocial and identity development at different years of study; and a recognition of environmental influences and how they relate to, and can be adapted to, changing student characteristics and needs. Particular reference is made to Chickering and Reisser's seven vectors of identity development, Baxter Magolda's work on young adults' journey toward self-authorship, and Bronfenbrenner's developmental ecology model. It is concluded that an intentional, vertical integration of transition programmes requires horizontal alignment between objectives (desired behaviour), the developmental needs of students, and educational environments. In this regard, a number of recommendations for higher education instructional and support staff are proposed.

Keywords

Higher education, transition programmes, first-year student experience, behavioural interaction theory, United States, South Africa.

Introduction

Tertiary education in South Africa has been characterised as a "low-participation, high attrition system" (Fisher & Scott, 2011, p. 1). Overall, only 17% of the 20–24-year-old population are enrolled in institutions of higher education (National Planning Commission, 2011). Moreover, large numbers of students who enter the academy leave. Estimates suggest that as high as 55% of the students who enrol in university will never graduate (Council on Higher Education [CHE], 2013). A report from the South African Council on Higher Education notes, "high attrition and low graduation rates have largely neutralized important

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gains in access" (CHE, 2013, p. 9). The national completion rate of 30% suggests that only 5% of young South Africans are effectively being served by the higher education system.

This problem hits historically underrepresented population groups particularly hard. While gains have been made in the past 20 years in terms of increasing access for students from these groups, there are still inequities in the current system. Participation rates for African and Coloured students are at 14% and 15% respectively (CHE, 2012). This is coupled with comparatively low rates of completion of qualifications (CHE, 2013). While the participation rate for Indian students (46%) is slightly lower but comparable to that of Whites (57%), their course completion rate in regulation time is more comparable to African and Coloured students (CHE, 2013).

The issue of "throughput" – or students' successful entrance into, persistence in, and completion of – qualifications, has risen to the forefront of the national conversation on post-secondary education in South Africa. The national economy has become increasingly dependent on jobs that require rising amounts of training and education. Moreover, the number of jobs in the economy is outpacing the number of diploma and degree recipients. Educational policy, such as that outlined in the National Development Plan White and Green Papers on Post-school Education and Training (DHET, 2012; 2013) have focused on supporting the public universities and Technical Vocational Education and Training (TVET) colleges to meet the nation's economic needs.

In addition, students themselves have an interest in completing their higher education in a minimal amount of time. Quicker time to degree or diploma completion translates to less money spent on tuition and other associated costs of attendance. Such increases in the time to degree can translate to debt and further financial drain on the student's family. Aside from the monetary outlay required for ongoing enrolment, delayed entry into the job market can mean deferring earnings that would otherwise be gained from full-time employment at a higher salary. The longer a student stays in a college or university without completing the programme, the more likely it is that he or she will leave the educational system without a qualification, suggesting that motivation wanes as time extends. Moreover, if young members of a community see that their peers are consistently dealing with failure in the current system, they may shy away from seeking higher education, keeping participation levels low.

As figures presented earlier suggest, students at higher risk of attrition are those from historically underrepresented population groups in both higher education as well as the economy. This "revolving door" problem can compound social and economic problems among these groups; in effect, education becomes a mechanism for maintaining the status quo rather than a tool for its disruption. The high cost to students and their families with low chances of success can be a drain on the individual, the family, the community and the country.

Supporting Student Success

Issues concerning throughput are manifest throughout the undergraduate curriculum. The first year is a point in the educational pipeline at which students are particularly vulnerable.

In contact institutions, nearly a quarter of all students leave after the first year (CHE, 2013). In fact, one-half to two-thirds of all attrition in higher education occurs between the first and second year. Moreover, the remaining amount of attrition that occurs after the second year is not trivial. While estimates of the student departure between years two and three are not available, it is likely the period in which the second largest group of students leave their studies. Conversely, a substantial proportion of students remain in institutions for five years or longer. The CHE (2013) reported that 14% of the year 2000 cohort was still registered after five years.

The discussion of simply admitting and graduating students without attention to the quality of the educational experience is incomplete. Student success at university goes beyond simple completion of the requisite number of modules in their prescribed sequence. In fact, many stumbling blocks to successful completion of coursework are not directly related to academic skills. Furthermore, students need to develop as whole individuals for life beyond the university, learning how to become engaged citizens, responsible leaders and thoughtful employees. This suggests that any discussion of student success must include issues related to the co-curriculum, where many of these skills are developed.

To provide adequate curricular and co-curricular support, educators have developed initiatives with an aim to support students during key transition points in higher education, namely entry, the first year, the "senior years" and graduation. These initiatives are of relatively recent vintage in South Africa. As such, documentation of and research on these programmes is relatively sparse; however, there is evidence that they have become fairly widespread. To help facilitate the entry into higher education, universities and colleges have developed initiatives including pre-term orientation, bridging programmes and extended curriculum (Jones *et al.*, 2008; Lewin and Mawoyo, 2014). Once students arrive on campus, it is possible they are met with one or more offerings aimed at easing the challenges of the transition to university, such as: credit-bearing first-year seminars, programmes developing academic and personal skills, or workshops designed to foster information literacy development (Jones *et al.*, 2008; Lewin & Mawoyo, 2014; Scott, 2012). Some institutions, such as Stellenbosch University, have developed an institution-wide approach to orientation and the first-year experience that extends well beyond the first few weeks of the semester (Botha & Van Schalkwyk, 2009). Institutional attention to the first-year transition has given rise to two national conferences on the topic, one hosted by Stellenbosch University in 2008 and one sponsored by the newly established South African National Resource Centre for the First-Year Experience and Students in Transition in 2015.

The support of senior students and students preparing for graduation comes through other academic support offices (Lewin & Mawoyo, 2014). This typically occurs in situations where students engage with units focused on providing services related to writing and language support, academic advising and career development. These services are frequently administered under the banner of an academic development department on campus. While these services might not carry the title of "transition programmes" *per se*, they play a critical role in the ongoing support of students as they progress through the educational pipeline.

Statement of the problem

Transition programmes have historically been specialised (having a narrow focus on providing a particular service), localised (residing within a particular faculty or functional area or office), and aimed at a particular group of students (those in a particular programme of study, academically underprepared). Furthermore, they are usually temporally bound, such as a first-year seminar. Often, students are passed from one transition programme to the next like a baton in a relay race (Keup, 2015). Stated candidly, functions of student success offices remain in silos; where coordination exists, it is haphazard and incoherent. Speaking of first-year programmes specifically, Scott (2012) identified this problem and suggested that initiatives should be Janus-faced, looking forward and backward simultaneously; first-year programmes, like all other programmes supporting students in transition, should be a special but not discrete part of the educational process. Greenfield, Keup and Gardner (2013) emphasise that success is more likely when we take our focus from individual "star" programmes and create an integrated constellation of student success programmes.

Integrated transition programmes

But what does it mean to have an "integrated" approach to student transition programmes? Barefoot *et al.* (2005) set out to document the foundations of excellence in first-year and other transition programmes in institutions of higher education in the United States (US). In that investigation, they described that intentionality, integration and comprehensiveness are criteria for excellence *within* a specific programme, intervention, or time in university (e.g. the first-year experience), yet very little attention was paid to coherence *across* these efforts (Barefoot *et al.*, 2005). Other studies of transition programmes in South Africa and the US have characterised connections between efforts as primarily administrative or transactional rather than based on meaningful connections, coherence and interdisciplinarity (Ogude, Kilfoil & Du Plessis, 2012; Padgett and Keup, 2011; Young and Hopp, 2014).

Vertical integration of transition programmes – that is, integration across the undergraduate experience from beginning to end – is related to curricular sequencing and scaffolding (CHE, 2013). Vertically integrated programmes have coherence between initiatives, support campus-wide learning standards, and attend to student developmental and educational progression. Moreover, the "vertical" aspect of the integration suggests that not only are students' needs attended to and supported at each step along the path, but that each experience is coordinated so that the experience that precedes dovetails into the one that follows. An integrated approach to support structures, curriculum and pedagogy would improve the effectiveness of the delivery of student support services, generate efficiencies and economies of scale at the institutional level, and create a more engaging and satisfying educational environment for students.

In what follows, the paper presents a theoretical case for the need to create vertically integrated programmes. After the theoretical case is made, discussion turns to the practical and research implications of this proposal.

The theoretical case

The theoretical perspective for vertically integrating transition programmes advanced here is based on Lewin's behavioural interaction theory, first published in 1936. Lewin proposed an understanding of an individual's behaviour based on a formula taken from the conventions of mathematics: $B = f(P, E)$. In this pseudo-mathematical formula, B refers to the individual's behaviour. P signifies the individual personal characteristics, such as cognitive and psycho-social states, as well as other characteristics and attitudes. Finally, E refers to the environment. The environment includes physical, social, organisational and psychic sources of influence on individuals (Strange & Banning, 2001).

Kolb (1984) extended this idea to include learning-as-behaviour. In other words, learning involves a transaction between the student's personal characteristics and the educational environment. This frame of reference allows the educator to recognise that learning outcomes can improve when the educational environment is optimised for the students who engage with it. An apt practical example of how the interactionist perspective can be operationalised is related to making decisions about how to improve institution-wide student outcomes. Educators attempting to improve student success markers such as persistence or completion rates (a proxy for student behaviours) are faced with a choice: to admit only the students who match the environment, the students for whom the system is already structured, whose success is all but assured; or to take the opportunity to find ways to recalibrate educational environments to unlock the potential in whichever groups of students enter institutions of higher education. In the former option, educators are manipulating the P in the formula by selecting a particular blend of personal characteristics in their students; in the latter, educators are adjusting the environments, E, to have an impact on the outcomes.

Furthermore, the interactionist perspective, as framed as a mathematical equation, suggests that to achieve particular behaviours over time, the person and environment must interact and adapt in ways responsive to each other. Lewin (1943) further expanded his formula to indicate that timing plays a critical role in individual behaviour: $B^t = f(S^t)$. In other words, behaviour at a given point in time, or B^t, is a function of a person's situation (which includes both personal and environmental factors) at that point in time, S^t. Moreover, as students progress through university, they grow in their knowledge and capability and their priorities are different at different stages of their development. Further, the desired learning outcomes change as students progress through their undergraduate careers.

Therefore, the behavioural interactionist perspective conveys three key insights to which higher education professionals must attend to develop intentional and vertically integrated transition programmes: (a) an understanding of the desired behaviours and learning outcomes at each stage of an undergraduate's experience; (b) an understanding of the characteristics of students, including how cognitive, psychosocial and identity development of students progresses throughout university years; and (c) an understanding of environmental influences and how they may be structured to be adaptive to changing

student characteristics and needs. What follows are theoretical and practice-based perspectives on each of these three conditions. As a full treatment of all theoretical and practical perspectives related to the constituent pieces of how interactionist theory informs vertical integration would be impractical, a selection will be presented to illustrate how each changes over time to set up a discussion of how they can inform the development of vertically integrated student success programmes.

Many of the perspectives discussed below have been developed based on university students in the US. There are certain to be nuanced differences in the applied particulars of these perspectives used to make the case; however, while differences exist, the underlying conceptual framework is transferrable across international and cultural boundaries. Thus, the connections presented herein are intended to be illustrative rather than prescriptive.

Behaviour

To describe the desired outcomes and behaviours of students at different points in their educational careers, the work of the National Resource Center for The First-Year Experience and Students in Transition in the US is instructive. The National Resource Center conducts national surveys on student transition programmes in higher education as its primary research activity, dating back to 1988. The studies conducted ask respondents from colleges and universities in the US to identify the objectives for the initiatives designed to support student transition and success in the first, second and final years in university.

Respondents to the most recent survey of first-year seminars identified the top objectives for the course (or module). The three most frequently identified objectives for students in the first-year seminar were to: (a) develop a connection with the institution; (b) develop knowledge of campus resources and services; and, (c) develop academic skills (Young & Hopp, 2014). Lewin and Mawoyo (2014) referred to similar aims of first-year experience initiatives within academic development departments in South African universities. These are aligned with the oft-stated goals of first-year experience programmes to facilitate students' academic and social adjustment to university (Lewin & Mawoyo, 2014; Ogude, Kilfoil & Du Plessis, 2012; Upcraft, Gardner & Barefoot, 2005).

Studies of institutional attention to the second year of university by the National Resource Center have similarly asked respondents to name the key objectives for students in year two. The most frequently designated objectives for second-year students were: (a) career exploration; (b) career preparation; (c) academic assistance; and (d) academic programme selection (Young, Schreiner & McIntosh, 2015). Other important outcomes for the second-year student include academic self-efficacy, motivation, values and deeper academic engagement (Schaller, 2010).

The student's final year of university is an important transition point in the higher education pipeline. Students in this stage are making preparations to exit the undergraduate phase of their lives and will enter the workforce or continue on in postgraduate or professional education (Hunter *et al.*, 2012). When institutions were asked by the National Resource Center in the US to identify the desired objectives of final-year capstone experiences, the most frequent responses were: (a) critical thinking or analytical,

problem-solving skills; (b) professional and career development; (c) proficiency in written communication; and (d) the ability to conduct research (Padgett and Kilgo, 2012).

Person

A robust opus of theoretical descriptions of human development during university studies has been developed over the past half century. While these theories differ in terms of philosophy, aspect of the person under consideration, or population group, one conclusion remains consistent throughout: late adolescence is an important developmental period for the majority of people (Evans *et al.*, 2010; McEwen, 2003). Key features of student development theory include not only the interpersonal and intrapersonal changes a student is undergoing in university, but the factors that lead to this development, the development towards which the university experience should be directed, and the aspects of the college environment that can encourage or inhibit growth (Knefelcamp, Widick & Parker, 1978).

Two useful theories for understanding how students are developing and that point to how environments can be constructed to support student success during key periods of university study include Chickering and Reisser's (1993) seven vectors of identity development and Baxter Magolda's (1999; 2001) description of young adults' journey toward self-authorship. A brief overview of each theory follows, along with a description of how the theories might manifest throughout the first, second and final years of university.

Identity development

Chickering and Reisser's theory of psychosocial identity development is cited as perhaps the best known and most widely referenced student development theory (Skipper, 2005). The theory, originally developed by Chickering in 1969 and revised by Chickering and Reisser in 1993 (Evans *et al.*, 2010; Skipper, 2005) describes seven vectors representing developmental tasks university students undertake as they develop their individual identities. Students will encounter these tasks to varying degrees over time and may not complete them in exactly the presented order. However, the seven vectors suggest a progression, where each subsequent vector represents greater complexity, stability and integration (Evans *et al.*, 2010). The seven vectors are: (1) developing competence; (2) managing emotion; (3) moving through autonomy towards interdependence; (4) developing mature interpersonal relationships; (5) establishing identity; (6) developing purpose; and (7) developing integrity.

Chickering and Reisser (1993) suggest that students are likely to encounter certain developmental challenges earlier in their progression than others, to wit the first four vectors. For example, the first year is widely thought of as an exciting time of new discoveries, freedoms in thought and behaviours, and growth in self-confidence. However, as Scott (2012) points out, the reality for many students is that the first year is pocked with experiences of failure, lost confidence and disillusionment. New students have entered a novel social milieu, meeting unfamiliar peers and instructors. Thus, they may face emotions such as excitement, fear or depression. Emotion and interpersonal relationships intertwine as they explore their newfound freedom to follow romantic pursuits.

As well-constructed curricular and co-curricular experiences help students to move along these vectors, students commence work on development related to the latter three. Studies on the second year of university have described the time as one in which students begin to reflect on their experiences and explore how they fit into university life and the world at large (Schaller, 2010). Second-year students have developed enough competency, self-awareness and confidence to begin grappling with larger questions such as the purpose of their education and what meaning their life might have (Margolis, 1989; Schaller, 2005; 2010). In the best cases, this eventually leads to commitments related to academics, relationships, and self (Schaller, 2010). Students begin to establish an identity, gain greater clarity about their purpose, and begin to solidify coherent commitments (Chickering & Reisser, 1993).

By the final year of university, students have begun to cultivate strengths in each of the seven vectors. Students have developed intellectual, physical and interpersonal competence; gained an awareness of emotions and the ability to pair them with responsible action; moved from emotional dependence to interdependence free from the need for continual reassurance; and fostered the capacity for enduring and healthy relationships (Chickering & Reisser, 1993). Moreover, these students are about to leave university having maturated a clearer sense of who they are as individuals, marked by heightened self-acceptance and self-esteem, increased clarity of personal and professional goals, and deepened clarification and congruence of values and actions.

Self-authorship

As the result of more than 20 years of interviews of individuals in university and in their lives afterwards (Evans *et al.*, 2010), Baxter Magolda developed a theoretical model to describe the intellectual development of students' meaning-making frameworks. The theory describes dimensions of development that are characterised by three major questions that young adults face: (1) the intrapersonal *who am I?* (2) the interpersonal *what relationships do I want with others*? and (3) the epistemological *how do I know what I know?* (Baxter Magolda, 2001). Baxter Magolda describes a developmental framework where students, early in their university studies, "adopt what to believe, how to view themselves, and how to act in relationships from external authorities without carefully examining their own thoughts and feelings" (Baxter Magolda *et al.*, 2012, p. 418). The demands of the stated outcomes of higher education and life beyond university require adults to develop self-authorship: the internal capacity to author one's views, identity and relationships (Baxter Magolda, 2001; Baxter Magolda *et al.*, 2012).

Students arrive at university with a strong reliance on external authorities (Baxter Magolda *et al.*, 2012). First-year students frequently reach to external sources of authority in the classroom, where learning is characterised by memorisation and uncritical acceptance of the perspectives of others. Rather than engaging in critical thought by expanding and judging perspectives, students gravitate toward and imitate their instructors' points of view. Baxter Magolda has termed this phase of the journey toward self-authorship "following formulas" and students often frame these formulas as if they are their own (Baxter Magolda,

2001; Evans *et al*., 2010). Baxter Magolda *et al*. (2012) found that nearly all (96%) students in a sample of 228 were predominantly reliant on external sources of authority; 86% were characterised as "externally defined" (p. 424).

However, the second year is an important moment along the path to self-authorship. Students begin to recognise the shortcomings of their reliance on external sources of authority, to become aware of the need to develop an internal voice, and to work towards constructing new ways of making meaning. The period in which students find themselves between external and internal roots of authority is characterised as a "crossroads" (Baxter Magolda, 2001; Baxter Magolda *et al*., 2012). Studies have demonstrated that as second-year students recognise the shortcomings of their previous ways of knowing, defining their sense of self, and their relationships, they seek ways to redefine them on their own terms (Baxter Magolda *et al*., 2012; Schaller, 2010; Schreiner *et al*., 2012). Specifically, Baxter Magolda *et al*. (2012) found that 63% of second-year students demonstrated development exhibiting more complex meaning-making and less reliance on external authority than in their first year.

Baxter Magolda's self-authorship theory is especially useful for understanding how students might develop their internal meaning-making frameworks during their time at the university in ways that will ultimately serve them as they engage in relationships, learning, employment and other activities as young adults post-graduation. In the final year of university, students' journey to self-authorship will progress as they "become the author of [their] life", marked by choosing their own beliefs and becoming owners of their knowledge, determining their own values and identity, and engaging in relationships in which they can remain true to themselves and develop reciprocal attention to needs (Baxter Magolda, 2001). However, in the initial study where the theory was developed, the students were only anticipating self-authorship upon graduation. It was found that graduates "left [university] with an initial awareness that they would have to make their own decisions, but without internal mechanisms to do so" (Baxter Magolda, 2001, p. 36).

Environment

The importance of creating educationally purposeful environments has been discussed widely for at least the past century. As Dewey (1933) states, "whether we permit chance environments to do the [educating], or whether we design environments for the purpose makes a great difference" (p. 22). Environments, as stated earlier, are important levers in the student success equation, particularly as wider access to higher education has become more important and the characteristics of students have become more diverse.

Bronfenbrenner (1993) proposed an ecological model of human development based on Lewin's model of person–environment interaction. The strength of Bronfenbrenner's developmental ecology model is its ability to describe the importance of the interactions between the person and the environment and to understand how the interaction influences outcomes (Evans *et al*., 2010). The model focuses on the interaction between four components of human ecology: person, process, context and time (Bronfenbrenner, 1993). As the discussion presented herein is focused on a framework for educational environments,

the components of context and time are the most germane to this framework and will thus constitute the bulk of the discussion. It is worth presenting the components of person and process briefly to illustrate how person and environment interact within this ecological model.

One of the chief pillars upon which Bronfenbrenner's (1993) model rests is the extension of Lewin's behavioural interaction perspective to state that development is an ongoing result of the interaction of the person and the environment (Evans *et al*., 2010). From this, Bronfenbrenner described two key mechanisms that have the most influence on this interaction. First, the personal characteristics with the greatest influence on personal development are those that strengthen or diminish dispositions toward the immediate environment. These characteristics include those attributes that elicit responses from the environment, the manner in which individuals react to the environment, the differences in how people engage or persist in activities of increasing complexity, and the way in which individuals perceive their agency relative to the environment (Renn & Arnold, 2003). Second, "proximal processes", or the forms of interaction between the person and the environment that are closest to the individual, are the primary sources of developmental influence (Evans *et al.*, 2010). Proximal processes should be encountered at progressive and developmentally appropriate times to achieve optimal development and so as not to be too complex and overwhelming.

Context is the aspect of the model that receives the most attention and forms the framework for the conceptualisation of the environment. Bronfenbrenner (1993) described the environment as four nested levels of context, surrounding the person at the centre: (1) microsystem, (2) mesosystem, (3) exosystem, and (4) macrosystem. The *microsystem* is characterised as the physical, social or constructed features of the immediate environment. Interactions with roommates, friendship groups, work settings, athletics teams, families and relationships with instructional staff all constitute common microsystems of the university student's environment (Renn & Arnold, 2003). Educators create structures to facilitate and ensure students' engagement with these microsystems, for example by teaching in classrooms, setting up office hours for instructor–student interaction, and offering peer mentoring to students.

The *mesosystem* refers to the processes taking place between two or more settings containing the developing person (Bronfenbrenner, 1993). In other words, a mesosystem is an interaction between microsystems. For example, a mesosystem occurs when a roommate relationship influences the way in which the student and a classroom environment interact. Other mesosystems are formed when students' family situations interact with their educational environs. Examples of educational environments that have been designed to facilitate high-impact student success by creating mesosystems include linked courses, residential living-learning communities, and connecting service-learning to first-year experience programmes (Young & Hopp, 2014).

Exosystems are environments that exist beyond the immediate environment of the individual but still have strong influence on the microsystems or the individual (Bronfenbrenner, 1993; Renn & Arnold, 2003). Exosystems within university students'

ecosystems include the fiscal and policy environments of the university, the curriculum committee, and even the environments of important others, such as their parents' workplaces. Other important exosystems for students include national policy on degrees and diplomas, such as the Higher Education Qualifications Framework, and needs and hiring processes of the industries into which graduates will be entering.

The most distal of the students' ecosystem is the *macrosystem*. The macrosystem contains the sum total of the micro-, meso- and exosystems within a particular social structure (Bronfenbrenner, 1993). This includes the broader university and all members of its community, but also comprises larger environments, such as socio-historical trends and larger cultural expectations (Renn & Arnold, 2003). The macrosystem has profound influences on students in transition. For instance, a first-year student moves from the culture of home to a new culture of the university. Additionally, the expectations of society about what it means to be a student at university, as well as the meaning that particular cultural perspectives assign to a university graduate, are forms of the influence that the macrosystem has on students and their transitions.

Finally, Bronfenbrenner (1993) outlined the role that time plays in the interaction of the person with the environment. As proximal processes should be structured at appropriate times to optimise the developmental potential of the person–environment interaction, the model suggests that time has a critical role in structuring educational environments. The idea of vertical integration as presented herein has a strong basis in the notion of the role of time in how the person and the environment interact to achieve learning and development.

Discussion

Lewin's (1936) behavioural interaction perspective stipulates that behaviour, learning (Kolb, 1984), or development (Bronfenbrenner, 1993) is influenced by the interaction between the person and the environment. Transition programmes have been developed to assist university students to adapt and achieve goals along their educational journey through higher education. As students change during their time at university, the environment can, and must, be responsive to achieve optimal learning and development. However, it is unreasonable to expect that an environment developed to achieve a particular outcome at one point in time would be adequate to produce a new outcome for a student who has changed at some future point. For example, second-year students are less prone to seek out help in the same ways as they did in the first year (Young, Schreiner & McIntosh, 2015). Moreover, vertical integration of student success programmes requires sequencing educational experiences in an intentional, focused and ordered way. Successfully integrated approaches to transition are built on an understanding of how students develop during and throughout their time at university.

Thus, an intentional *vertical* integration of transition programmes also requires, and is built upon, *horizontal* alignment between objectives (desired behaviour), the developmental needs of students, and educational environments. For instance, if the desired objective (i.e. behaviour) for first-year students is academic adjustment, educators must consider who they are as people. Students in the first year of university are likely to be confronted with

challenges related to confidence, emotions, relationships and new-found independence (Chickering & Reisser, 1993). Moreover, they are likely to look to external sources of authority as they engage in learning and making meaning of novel information (Baxter Magolda *et al.*, 2012). As educators adapt, adopt and create environments, they must consider how they can create educationally supportive ecosystems. Educators must consider the elements of the micro-, meso-, exo- and macrosystems both related to the curriculum and the co-curriculum that they can modify and improve to assist students in the first year.

The same pattern is followed for the subsequent years of university. However, vertical integration suggests a progressive approach to the objectives. Thus, as Scott (2012) suggested, transition-focused initiatives should look both forwards and backwards, creating a seamless educational experience. First-year programmes should set students up for the second year, the second year should build on the first-year and prepare students for the final year, and final-year initiatives and culminating experiences should be based on creating an integrative educational opportunity for students who are poised to graduate and enter the next phase of life, either in the workforce or in graduate or professional education.

Implications for practice and research

As a result of this conceptual case for vertically and horizontally integrated approaches to student transitions, three recommendations for higher education instructional and support staff can be advanced for South Africa's higher education institutions: (1) determine what the desired outcomes are for students at each year of university; (2) develop an understanding of who students are at each step throughout their undergraduate years; and, (3) create educational environments to match and facilitate development and learning in the micro-, meso-, exo and macrosystems.

First, institutions must determine realistic and desirable outcomes for each year. A reasonable place to start is with a set of general learning objectives for all students at the institution. Similar to how a qualification's curriculum is built on a specific set of learning outcomes related to the discipline, an institution can create a general overview of what it means to be a graduate from that university. Then, the next question follows: What do institutions want their students to know at each step along the way? Coming to some consensus about this at an institution-wide level is likely to be somewhat difficult as there are likely to be differing opinions. However, there is power in this process; if done properly, multiple stakeholders can come to the table and develop buy-in as they participate in the development of these objectives.

Second, an ongoing commitment to understanding who South African students are and how they develop throughout their undergraduate years is critical. As expressed earlier, a major limitation of the examples presented herein is that they are based on scholarship that is based on university students in the United States. The specific application and development of programmes must be built to serve local needs within the broader national context. Understanding the unique circumstances and developmental trajectory of students at each institution will allow for creativity in developing high-impact interventions.

Finally, the educational environment represents the opportunity for higher-education professionals to intervene and make a difference in the trajectory of the lives of students. However, the students who are at university now will not be served by systematic structures that take years to develop. Even in the rare cases where there is systemic agreement that widespread changes to curricular or co-curricular structures are necessary, changes are slow to come. While the long-term goal is to weave this integrated support into the institutional fabric, a more measured approach can be advocated.

Educators can seek opportunities to support students in structures that already exist on campus; this is especially important for senior university students. The interested higher-education professional on campus or institutional researcher can create an inventory of the existing points in universities that are currently uniquely poised to provide the first steps toward integrating student transitions. Such examples include services under academic development and support, academic advising, and on-campus residences. Studies of the evolution of student success programmes in the United States have revealed that initiatives aimed at supporting second-year students most frequently emerged out of different functional areas first (e.g. student residences, academic advising, career services) and then became more coordinated (Keup, Gahagan & Goodwin, 2010; Young, Schreiner & McIntosh, 2015).

Once the offices, programmes and initiatives have been identified, it is important for those staff to connect, collaborate and create communities of practice. The coordination of transition programmes can lead to opportunities for efficiency and identifying gaps in coverage. The appointment of a coordinator of senior student programmes can put in place an individual to be a champion. However, the appointment of an administrator does not signal the successful implementation or integration of transition initiatives – it is merely a first step.

Concluding comments

Creating intentional educational environments can help students as they move through university. Vertical integration, as a progressive, intentional, and student-centred approach to developing and delivering student success, provides a comprehensive method for incorporating best practice for student success. As institutions attend to how students develop as they progress through university and respond appropriately, they will be better positioned to deliver on the social and economic promises of higher education.

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