

Relationship between student preparedness, learning experiences and agency: Perspectives from a South African university

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Background. One of the more discernible needs that challenges universities is addressing the level of preparedness of students entering the higher education environment. Students expect to participate in active learning, while at the same time adopting a certain level of agency to successfully pass through higher education.

Objective. To determine the relationship between student preparedness, learning experiences and agency of students in the Faculty of Community and Health Sciences (FCHS), University of the Western Cape (UWC), Cape Town, South Africa.

Methods. A cross-sectional study was conducted on 266 ($N=578$) convenience sampled 3rd-year students in the FCHS. Data were collected with an instrument constructed from items of evaluation from the departments in the FCHS and other validated instruments.

Results. Findings suggest that 3rd-year students perceive themselves as moderately prepared on enrolling at UWC (mean (SD) 13.74 (1.86)); current learning experiences are favourably indicated (94.04 (15.32)). On average, students perceive themselves to be agents of their own learning (51.56 (8.79)). Furthermore, a significantly positive relationship was found between learning experiences and agency.

Conclusion. This study broadens our understanding of the Vygotskian perspective of the zone of proximal development, where students bring their own knowledge, interact with lecturers who scaffold their learning, and then become agents in their own learning.

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This article explores how Vygotsky's zone of proximal development (ZPD) can be applied to the teaching and learning of health science professionals in higher education. ZPD provides a conceptual understanding of how developmental potential might be understood within health science education

in South Africa (SA). Vygotsky^[1] defined ZPD as 'the distance between the actual developmental level as determined by independent problem-solving and the level of potential development determined under adult guidance or in collaboration with more capable peers'. Furthermore, it celebrates the importance of the 'social other'. According to Vygotsky,^[1] social interaction precedes development, and consciousness and cognition are the end-products of socialisation and social behaviour. ZPD refers to a conceptual space/gap between what students know and what they need to know.^[1] This space generates a unique opportunity for academics to design learning activities that may facilitate the development of student agency and preparedness. Lecturers are therefore mediators in ZPD for student learning to occur and for students to become more active as learners. Thus the interaction between lecturer and student encourages more positive outcomes for the latter.

In SA, the education needs at universities include addressing a general lack of academic preparedness, multilingual needs in English-medium settings, large class sizes and inadequate curriculum design.^[2] The challenge for higher education institutions not only relates to increasing the throughput of students and diversity of the student population, but also involves the provision of quality education. Many university courses are theory driven, without much thought to students' real-world experiences. Therefore, their ability to link theory and practice may be compromised.^[2] A higher education report on student experiences posits that the existing cohort of students is not necessarily underprepared, and that failure to succeed lies more in systemic weaknesses in higher education.^[3] Therefore, there is a need for academics to fully understand students' thinking to deliver educational practices that will

allow them to achieve their full potential, while bearing in mind that learning takes place on the basis of social activity.^[4]

While SA's higher education system leads that of its African peers in research and postgraduate attainment, it is deeply affected by the same educational inequalities and poor educational performance that characterise the school system.^[5] Furthermore, there is an indication that students who are not sufficiently prepared are not equipped to deal with self-directed approaches.^[6] In a cross-cultural study, considerable variation is observed between students in four settings with regard to perceptions of preparedness for higher education.^[7] Lecturers are important role-players in the learning context for students, and the latter, in turn, are important role-players in the teaching environment for lecturers.^[8] One of the principal objectives of a health science course is that students should progressively gain the ability to identify the relevant learning issues. These should encompass all disciplines to facilitate an adequate understanding of the clinical situation in need of improvement and to enable students to formulate clinical judgements and action plans. Each student's prior knowledge helps to inform other students in the class by identifying essential learning needs.^[9] Therefore, educational experiences are only as effective as students' engagement with them,^[10] because students determine how much effort is required to engage in the learning process, and real learning takes place through this engagement. 'Agentic' has been used to describe students who assert agency in their learning. Billet^[11] describes them as 'learners who are pro-active and engaged in making meaningful and developing capacities in ways that are intentional, effortful and are actively critical in constructing their knowledge'. Therefore, students' readiness to take up and engage with the invitations being offered to them is central to their learning.^[11]

Guided by Vygotsky's ZPD, the purpose of this study was to examine the relationship between students' perceptions of their preparedness, learning experiences and agency in the Faculty of Community and Health Sciences (FCHS), University of the Western Cape (UWC), Cape Town, South Africa. The context for this study is an interprofessional health sciences faculty. Approximately

2 700 undergraduate students are enrolled across nine departments/schools (Nursing; Physiotherapy; Occupational Therapy; Social Work; Psychology; Dietetics; Natural Medicine; Public Health; and Sport, Recreation and Exercise Science). We are not aware of studies that have examined the relationship between the variables for this study.

Methods

This article forms part of a larger study that sought to investigate the learning needs of health science students at a university in southern Africa. A cross-sectional study was conducted on 266 ($N=578$) 3rd-year students from eight departments/schools in the FCHS.

Sample

Participants for this study were a convenience sample of 266 students in their 3rd year of study towards a degree registered in a health science faculty. Academic co-ordinators for 3rd-year programmes in the faculty allowed the research assistants access to their 3rd-year classes. Data were collected using a modified self-administered instrument completed by students from eight different departments/schools that offer undergraduate programmes.

Research instrument

The questionnaire was constructed from other relevant ones, including that by V Bozalek *et al.* (unpublished report on the Competitive Research Grant received from the Council for Higher Education, 2008). The instrument consists of scales and subscales that measure preparedness, learning experience, prior learning experience, self-esteem, perceptions of academic literacy and numeracy skills, and student agency. The instrument was piloted before implementation to determine the time it would take to complete, and to ascertain whether there were any items that would require amendments. The instrument showed high reliability with a Cronbach α of 0.85.

Procedures

Departments and schools in the health sciences faculty were invited to participate in the study. All departments assigned a 3rd-year cohort to the project. Students from these cohorts were invited to participate and provided informed consent. Data were collected face-to-face by research assistants assigned to the project. These assistants informed participants of the objectives of the project, the nature of the questionnaire, that participation was voluntary, and that they could withdraw at any time without undue consequences. The questionnaire took approximately 15 - 20 minutes to complete.

Permission to conduct the research was obtained from the Senate Research Grants Committee and the Ethics Committee at UWC. All information was strictly confidential and pseudonyms were used to protect anonymity of the participants.

Data analysis

Data were double captured in Microsoft Excel 2010. After matching both sets of data, the clean data were imported into SPSS Statistics version 20 (IBM, USA) for analysis by means of descriptive and inferential statistics. Descriptive statistics included percentages, means and standard deviations. Cross-tabulations were conducted in terms of gender. Inferential statistics included a correlation and linear regression analysis. An R -value of 0.0 - 0.2 suggests a weak relationship, 0.3 - 0.5 a moderate relationship and 0.6 - 1.0 a strong relationship.

Results

Four hundred questionnaires were distributed to the 3rd-year students ($N=578$), of which 266 were returned, indicating a response rate of 67%. Seventy-two percent of the respondents were female. The majority of respondents were from the psychology department (Table 1). The mean (SD) age of the participants was 23.57 (4.91) years. English was the first language of the majority of participants (48%); 61% did not have work experience before entering university; 47% considered their socioeconomic status as average; 41% had previously attended a historically disadvantaged school (41%); and 58% identified themselves as coloured. For the purpose of this study, historically disadvantaged schools are those situated in poverty-stricken areas, mostly townships, rural and farm areas, which are characterised by poor socioeconomic conditions and poor educational infrastructure and resources.^[12]

The results in Table 2 show that the majority of students considered themselves to be moderately prepared (13.74 (1.86)) and their learning experiences to be favourable (94.04 (15.32)). On average, students perceived themselves to be agents of their own learning (51.56 (8.79)). Further cross-tabulations were conducted in terms of gender. The results suggest that 43% of females and 38% of males were moderately prepared for university, even though the majority of participants were female.

Moreover, a correlation indicated significant positive relationships between student learning experiences and student preparedness ($r=0.16$; $p<0.01$), as well as student learning experiences and student agency ($r=0.34$; $p<0.05$). No relationship was found between student preparedness and student agency.

Two linear regression analyses were conducted (Table 3) to predict student agency. Student learn-

Table 1. Demographic profile of students in the Faculty of Community and Health Sciences, UWC

Variables	Students, n (%)
Gender	
Female	187 (72.5)
Male	71 (27.5)
Faculty of Community and Health Sciences	
Psychology	80 (30.1)
Nursing	55 (20.7)
Sport, Recreation and Exercise Science	35 (13.2)
Physiotherapy	30 (11.3)
Social work	24 (9.0)
Dietetics	15 (5.6)
Natural Medicine	16 (6.0)
Occupational Therapy	9 (3.4)
Ethnicity	
Coloured	151 (58.1)
Black	75 (28.8)
Indian	17 (6.4)
White	17 (6.4)
Living arrangements	
Both parents	123 (47.7)
Only mother	49 (19.0)
In residence	33 (12.8)
Only father	1 (0.4)
Language	
English	123 (47.5)
Afrikaans	66 (25.5)
isiXhosa	52 (20.1)
Type of school previously attended	
Historically disadvantaged school	107 (41.3)
Ex-model C school	98 (37.8)
Independent school	30 (11.6)
Work experience prior to entering university	
No	161 (61.0)
Yes	103 (39.0)
Perceived current socio-economic status	
Very disadvantaged	13 (5.0)
Disadvantaged	38 (14.7)
Average	122 (47.3)
Advantaged	73 (28.3)
Very advantaged	12 (4.7)

ing experiences in the classroom accounted for 11.3% of the variance for student agency. Student preparedness did not predict student agency.

Discussion

This study provides the first known information with regard to the relationship between student preparedness, learning experiences and agency. A large proportion of students are enrolled in the psychology and nursing fields – two of the largest departments in the faculty; however, the responses are a representation of a range of views from students across the faculty.

Participants reported that they were moderately prepared for university. This is not surprising, as a significant number of students are underprepared when entering higher education settings,^[13] regardless of gender. While the current challenge facing higher education institutions is not only about increasing throughput in terms of numbers and diversity of student population, it also involves ensuring quality education. Therefore, educational needs at universities should include addressing a general lack of academic preparedness, multilingual needs in English-medium settings, large class sizes and inadequate curriculum design.^[2]

Despite the moderate level of preparedness, a positive relationship between perceptions of student preparedness and learning experiences was observed. One of the major factors relating to low graduation rates in SA higher education is underpreparedness of students.^[14] Therefore, if students are better prepared for higher education before entering university, their experience in higher education should be greatly

enhanced. However, it is a huge undertaking for a higher education institution to attempt to redress inequalities in the formal education system to address the underpreparedness of students. These findings are similar to those of Brüssow and Wilkinson^[15] with regard to learning experiences and underprepared students, where students also had favourable learning experiences. Many university courses are theory driven, and assume that students have knowledge of real-world experiences that lead to them linking theory and practice.^[2] The higher education report on student experiences suggests that students are not necessarily underprepared, and that failure to succeed lies more in systemic weakness than in higher education.^[3] This implies a need for a deeper understanding of students who strive to achieve their full potential.

This study showed a positive relationship between learning experiences and student agency. Much has been said about poor graduation rates and a diminished learning culture among students. This study negates these arguments, proving that there is an indication that students who have a better learning experience take more responsibility for their own learning. The results also provide an understanding of the Vygotskian perspective of the role of the learning experience for underprepared students to become agents of their own learning, i.e. that lecturers provide the learning experience for students to function optimally and be self-directed within the space of the ZPD. Student agency cannot and should not be ignored in the teaching and learning process.^[16] Students' power (their agency) cannot be ignored as they negotiate their needs, which can be overdetermined by their social background,

available resources, campus organisations and external pressures. Agency is seen as an important empowering and disempowering factor, as it enables and constrains the interpretation of actions, society and social interactions with people.^[14]

Conclusion

This study was limited to one of the 24 higher education institutions in SA. The sample included a larger proportion of females, which may suggest a bias, but moderate preparedness was found for *all* students regardless of gender. The study indicates that there is a very enmeshed and complex relationship between teaching and learning, which may further be complicated by other factors, which were not the focus of this study. However, our study showed that students who are better prepared for the higher education setting have better learning experiences. These settings may provide higher education specialists with a unique opportunity in ZPD to provide academic activities that enhance a positive learning experience.

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Table 2. Associations between variables

Variables	Minimum	Maximum	Mean (SD)	Student learning experiences
Student preparedness	11	19	13.74 (1.86)	0.16*
Student agency	26	78	51.56 (8.79)	0.34†
Student learning experiences	50	128	94.04 (15.32)	

*Correlation significant at the 0.05 level (two-tailed *t*-test).
†Correlation significant at the 0.01 level (two-tailed *t*-test).

Table 3. Regression analyses predicting student agency

Predictor	B	SE B	β	ΔR ²
1				
Constant (student agency)	45.52	4.55		
Student preparedness	0.44	0.33	0.09	
2				
Constant (student agency)	33.04	3.56		
Student learning experiences	0.20	0.04	0.34*	11.3

*Regression is significant at *p*<0.05 level.