

Massification at higher education institutions; Challenges associated with teaching large classes and how it impacts the quality of teaching and learning in South Africa

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Abstract

The paper engages with the phenomenon of large classes in higher education institutions in South Africa and its challenges to the quality of teaching learning. Most public higher education institutions in South Africa, in response to historical conditions, have enrolled students more than their capacity, resulting in massification and negative consequences on educational quality. There has been a plethora of literature on the teaching of large classes, however, few studies offer a comprehensive engagement on the challenges presented by teaching larges and its impact on quality of education as well as innovative strategies that can be used to teach and different learning pedagogies that can be used. This essay identified the challenges of teaching large class in higher education institutions due to massification and large enrolments and their implications on sustaining and enhancing quality of teaching and learning. In addition, I suggested several strategies that can be used to overcome the challenges of teaching large classes as well as how to monitor and evaluate these strategies with the aim of improving quality of higher education in the era of massification. Accordingly, the human capital theory was adopted. Furthermore, a qualitative research approach was applied in this study and a systematic literature review was used to collect and review information according to the guiding principles of the hermeneutic framework. The essay contributes to literature with the strategies to enhance quality of teaching and learning, student engagements and teaching approaches aimed at reaching all students in large classes.

Keywords:

Massification, challenges on teaching large classes, quality of higher education, South Africa

Introduction

South Africa has only 26 public universities and a few private higher education institutions and TVEIT colleges to meet the very high demand for study places at higher education institutions and this has often resulted in increased enrolments beyond capacity. Academics are therefore under constant pressure to fulfil the teaching and learning mandate of quality education in the face of limited resources (Pravina, 2020). Moodley (2015) pointed that the challenges which higher education institutions face in ensuring a high-quality education are worsened by very large class sizes. Teaching large classes has presented many challenges to lecturers in today's era where massification has become a reality in higher education (Albertyn et al., 2016). The challenges that

higher education institutions face in ensuring quality of education have been made worse by the large class sizes.

Massification, refers to the significant increase in the number of students enrolled in higher education institutions, which has resulted in the challenge of teaching large classes. According to Parhizgar (2010) massification means giving equal opportunities to all applicants or denotes a mass or universal education system as proposed by Trow (1973). Scott (1995) further described massification as a rapid increase in student enrolment has been witnessed towards the end of the twentieth century and has contributed to large classes at institutions of higher learning. Massification as a process has challenged the old traditional forms of universities in the past which were regarded as centres of elite minority groups of students to gain access to education (Trow, 2000). Similarly, as the South African government has aggressively moved towards improving its throughput levels targeting 1.5 million enrolments as well as 400 000 graduates per year by 2030 (NDP, 2011). Teaching large classes in South Africa has been and will therefore remain commonplace at higher education institutions (Moodley, 2015). Biggs (1999) further pointed out that large classes at higher education institutions are not a new occurrence as in many countries including France, Holland, Italy, and the USA classes of between 300 and 1000 students have been identified to be common.

One can note that lecturers have in most cases found themselves exposed to many challenges as they are expected to work within the massification model and at the same time to provide quality teaching. Within the social justice framework, lecturers have been identified to bear a moral burden, and teaching large classes is seen as something lecturers just simply have to do (Allais, 2014). Furthermore, teaching large classes at higher education institution has fast become a norm and presented several physical, psychological, mental and emotional challenges which impact both students and lecturers (Pravina, 2020). For instance, some of the main problems that students in large classes encounter include the following: physical disconcertment as they are cramped into a classroom with very little space for them to sit comfortably and to accommodate their learning tools and in the worst-case scenario having to sit on the floor or standing outside at the door; a sense of anonymity and feeling intimidated and voiceless in a large class, inadequate library resources to cater for the large numbers of students; inadequate functional equipment; lecture venue capacity constraints; shortages of student accommodation and facilities; abnormal student lecturer ratio and timetabling issues among others (Moodley, 2015; Pravina, 2020). Similarly lecturers are not spared from the challenges of teaching large class includes, loss of lecture time as it takes longer for students to enter the lecture venue and to settle down for the lesson; being unable to bond with students, and in the process not being able to discern the weaknesses and strengths of each student which is a cornerstone of quality teaching and learning; being frustrated by assessment demands and being forced to set assessments which are marker friendly rather than quality assessments and experiencing a general sense of not being in control of a large class.

Due to the significant challenges arising as a result of massification in higher education, there is a greater need to investigate and review how these challenges affect both lecturers and students as well as its implication on the quality of teaching and learning. The author has identified little information in the literature with regard to how massification and teaching large classes affect the

quality of teaching and learning and hence the study focuses on this identified gap. The aim of this article is to review challenges associated with teaching large classes and its implications on the quality of teaching and learning at higher education institutions in South Africa. Additionally, the study will include ways to consider in mitigating challenges associated with teaching large classes with the aim of improving the quality of teaching and learning in higher education institutions. The study further aims at assisting the management of higher education institutions with ways in which challenges associated with massification can be reduced whilst promoting the quality of student development and motivating academic staff with new pedagogies that cater for teaching large classes.

Literature Review

The study adopted the human capital theory. The human capital theory as per Martin Trow's (1973) study on the massification of higher education argues that the social dynamics of growth in a country drive the student's participation in higher education. Human capital theory, therefore, provides the link between higher education and the social dynamics of a country's economic growth. Higher education institutions increase their student enrolments in line with the country's economic growth demands for graduates with knowledge, skills, and certified professional competencies (Adetiba, 2019). Human capital theorists suggest parents and students invest their time and resources in higher education to improve their societal and educational position, but the majority do not know what the outcome and challenges of massification in higher education will be. Trow (2016) on human capital theory concluded that there are fundamentally no limits to people seeking to improve their knowledge in terms of acquiring higher education, which therefore means that there are no limits to participation in educational growth, regardless of the way it is achieved. In South Africa, the education that was served to the elite minority group in the past has been upturned and is now equal education opportunities for all through massification in the higher education system (Adetiba, 2016; Lee, 2016).

Massification in higher education: Quality of Education vs Class Sizes

There has been a long-perceived belief that the number of students in a class affects the quality of teaching and learning environments (Ehrenberg et al. 2001; Cuseo, 2007; Moodle, 2015). For instance, large classes are believed to correlate with poor student performance, however, class size in itself is not a distinctive feature of student performance but rather class size matters in relation to the quality of education and educational experience encountered by both the students and lecturer (McKeachie, 1980; Pravina, 2020). Large class sizes do matter and have been identified to be having a negative effect on the quality of student learning (Cooper and Robinson 2000; Mulryan-Kyne, 2010). The key to effective teaching is the lecturer's capacity to address each student's needs and perspectives effectively and uniquely (Wentling et al., 2007). However, this gets difficult, especially with large class sizes. Likewise, there is a direct link between quality teaching and learning with class size.

It can be noted that the rapid expansion and enrolments in South African higher education institutions have led to various challenges which include among others, an increase in quality

academic programs, reduced quality of teaching and learning as well as mismatch between industry requirements and graduates' knowledge and skills (Adetiba, 2016). Gibbons (1998) argued that at global level massification has brought about multiple implications for higher education systems, not only in terms of increasing student numbers, but also the negative changes in the composition, character, and ambitions of the student population. Teaching in large classes has often been viewed negatively (Hornsby & Osman, 2014; Moulding 2010). Critics of massification in higher education further linked poor student performance and achievements to large classes (Arias & Walker, 2004; Chang & Yeh, 2012; Fraser and Killen, 2005; Goodman et al., 2011).

Furthermore, the challenges and opportunities presented by teaching large classes in higher education have been described by various scholars in studies which focused on the student/lecturer perspectives (Exeter et al., 2010; Messineo et al., 2007; Mulryan-Kyne, 2010; Ward & Jenkins, 1992. In his contributions in the book titled, "*Education for the Knowledge Economy*", Obanya (2004) claims that the massification of higher education which resulted from the opening of the gates to large enrolments exposed institutions to several challenges which among others problems of ensuring quality and cautious use of available resources, whose size cannot be matched with the rate of increase in the student numbers where for instance more than 200 students are taught in a venue designed for 75 students capacity. Therefore, providing quality education with the goal of fostering socio-economic development is impossible with poor, inadequate, and unmaintained infrastructure, technical problems, and resources. Teaching large classes adds pressure to lecturers who are also expected to engage in research, community engagement and other administrative duties. Mulryan-Kyne (2010) pointed out that lecturers have often been overwhelmed by these responsibilities and resort to traditional methods of teaching and assessment with less consideration for delivering quality.

Blatchford et al. (2004) discovered that students' engagement and learning in a big class played a more passive role whereas students in a smaller classes were identified to be more interactive and actively engaged with the lecturer. Wentling et al. (2007) confirmed that in an environment with large class size, student interactions are limited due to a number of factors, including the format of teaching; students' hesitancy to interrupt the lecturer by asking questions; and students' fear of asking questions that other students may consider unnecessary. As a result, students are hesitant to participate and are satisfied to remain listeners in a large class as compared to a small class. According to Gibbs et al. (1996), student participation and levels of student interactions vary depending on class size, quality of teaching as well as the duration of the class. Mahler et al. (1986), contend that the cognitive level of interactions among groups/class of students decreases as the group/class size increases, thereby adversely affecting the quality of teaching and learning that takes place. Additionally, large class sizes have been identified to be challenging for lecturers to maintain the degree of two-way communication with their students necessary to maximise student learning. Therefore, lecturers need to be more adaptable and quicker to respond in order to meet the diverse demands of students to ensure (Wentling et al., 2007).

Mulryan-Kayne (2010) noted that student performance in large classes is negatively affected mainly because the intensity of student-lecturer interactions decreases and further pointed the poor

levels of student engagements in a large class size. Therefore, large classes have been identified as not favourable learning environments for students to develop higher order academic skills and have often been seen to be counterproductive by students who require interaction for motivation. Gibbs (1992) suggests that poor student engagement with their module contents, lower engagement with modules and low motivation are some of the major challenges associated with students enrolled in large classes. Furthermore, low participation levels, reduction in active student involvement in learning, social isolations and lack of adequate resources are some of the problems which have been identified to affect students in large classes. Active student participation plays an important role on the quality of higher education. Lack of class preparedness has been linked to large classes especially first year students often feel uncomfortable and confused as well as feeling nameless and clueless in their class in the first weeks. Accordingly, these students have been identified to adopt a passive role in class and are reluctant to participate and ask questions or make contributions (Mulryan-Kyne, 2010). Carbone (1999) clarifies that these problems encountered by students in a large class is unlikely to exhibit in small classes including students arriving late for class as well as not attending or leaving classes early as they will be actively engaged and participating in class which will enhance the quality of teaching and learning. Interestingly Christopher (2011) claims that teaching and learning in a small class have been identified as being more successful when higher-level cognitive skills are being taught.

Method

This study applied a qualitative research approach with a systematic literature review methodology. The focus of the study is on identifying the challenges associated with teaching large classes at higher education institutions as well as strategies that can be used to overcome the challenges of teaching large classes. The major propositions of this article are on the quality of education in large classes; challenges experienced by the lecturers in teaching large classes and teaching strategies employed by lecturers. A systematic literature review was used to collect the data according to the guiding principles of the hermeneutic framework. The framework is widely used to perform qualitative data synthesis and was chosen because it offers multiple iterations of data synthesis for data sources to understand better and identify all relevant information for the study. The framework states that literature can only be better understood through several iterations of the hermeneutic cycle (Boell & Cecez-Kecmanovic, 2014). The framework divides the literature review process into seven iterative steps: searching, sorting, selecting, acquiring, reading, identifying, and refining. The table below describes these steps in detail as they relate to the study.

Table 1: Activity description and application of the seven steps

	Activity	Description and application
1	Searching	Searching refers to finding relevant publications in multiple databases using the key search terms recorded in the section above. The use of search operators, database dependency, search logging, and field search helped refine the search.

2	Sorting	The search results were then sorted according to criteria such as relevance, citations, and publication.
3	Selecting	Articles were carefully selected for reading from the list of sorted articles based on the selection criteria in row 1. The selection was based on a keyword search within the article and reading the abstract.
4	Acquiring	The complete texts of the carefully chosen articles were obtained for reading. The full texts of the carefully selected articles have been obtained for reading.
5	Reading	The preliminary reading should familiarise the researcher with the carefully selected articles and find references to other relevant articles. A systematic reading of all received articles was carried out.
6	Identifying	Additional search terms and articles could be identified based on the previous phase. In this step, further publications were found after citation tracking and journals and conferences.
7	Refining	Search techniques were used to refine the newly discovered search terms. Successive fractions, building blocks, or subsequent citations from other studies were then used to refine the search terms.

Source: (Boell & Cecez-Kecmanovic, 2014)

Result and Discussion

Challenges of large classes and implications on quality of teaching and learning

South Africa has experienced a significant increase in enrolments in its higher education institutions in recent years, which has led to overcrowding in classrooms, a shortage of accommodation and other facilities, and a strain on resources such as funding and academic staff¹. One of the consequences of massification in South African higher education is the growing concern about the quality of education. With more students entering the system, it is often difficult for institutions to maintain academic standards, provide adequate support, and ensure that students receive a high-quality education². This has led to various discussions and concerns around the employability of graduates and the impact of massification on the reputation of South African universities with regards to producing quality and employable graduates. In addition, massification has also highlighted the issue of access and equity in the higher education system³. While massification has brought benefits to the South African higher education system, it has also created significant challenges including limited class interactions and feedback, lack of individual student

¹ Pillay Pravina, "Massification at Universities of Higher Learning in South Africa," *Gender and Behaviour* 18, no. 1 (2020): 14783–14798.

² Ruth M Albertyn, Pauline Machika, and Christel Troskie-de Bruin, "Towards Responsible Massification: Some Pointers for Supporting Lecturers," *Africa Education Review* 13, no. 3–4 (2016): 49–64, <http://dx.doi.org/10.1080/18146627.2016.1224577>.

³ Toyin Cotties Adetiba, "MASSIFICATION OF HIGHER EDUCATION IN SOUTH AFRICA, THE GOOD, THE BAD AND THE UGLY," *Proceedings of the 50th International Academic Conference, Paris* (International Institute of Social and Economic Sciences, 2019), <http://dx.doi.org/10.20472/iac.2019.050.001>.

attention and tracking, classroom management, assessments and grading, resources and capacity constraints, physical infrastructure, ineffective teaching methods, curriculum design, staffing and pressure on academics, educational quality and graduate employability ⁴

Limited interaction and feedback

In large classes, it is usually challenging for lecturers to engage with individual students and provide personalised feedback. This further makes it difficult for lecturers to identify and address individual student needs, which may lead to lower student engagement and performance. In addition, large classes often limit the interaction between students and lecturers which can result in a lack of feedback, opportunities for questions and discussions, and engagement with the course material. Jungic et al. ⁵ pointed out that lecturers in large classes have found it difficult to interact with students which is one of the cornerstones of quality teaching and learning.

Lack of individual student attention

In large classes, lecturers find it difficult to provide individual attention to each student which often result in some students feeling neglected or disengaged from the course and contributes to students' poor performance. Christopher ⁶ concurred that large classes are not only unfair to lecturers in terms of teaching workload, but also unfair with regards to offering quality education to students. Therefore, there are often no or little meaningful interactions, dialogue, and discussions with students in a large class and little opportunity for lecturers to focus on the needs of individual students ⁷. Furthermore, one of the most important elements of successful teaching lies in the ability of the lecturer to respond efficiently to individual students' needs which is a challenge when class size is large ⁸.

Classroom management

Managing a large class has been identified to be challenging for lecturers and may lead to disruptions and decreased instructional and teaching time. Ward and Jenkins (1992) identified that when teaching large classes lecturers frequently have to deal with controlling large numbers of students entering and exiting lecture halls, which becomes very disruptive and negatively affects

⁴ Goolam Mohamedbhai, "Massification in Higher Education Institutions in Africa: Causes, Consequences and Responses," *International Journal of African Higher Education* 1, no. 1 (2014), <http://dx.doi.org/10.6017/ijahe.v1i1.5644>; Roy Moodley, "Challenges and Transformations: Counselling in a Multicultural Context," *International Journal for the Advancement of Counselling* 21, no. 2 (1999): 139–152; Pravina, "Massification at Universities of Higher Learning in South Africa"; Sayekti Suindyah Dwiningwarni et al., "Analysis of Factors Considered in Policy Making Placement Officer in Structural Position (Studies in the University of Mataram)," *IJICC* 9, no. 12 (2019).

⁵ Veselin Jungic, Deborah Kent, and Petra Menz, "Teaching Large Math Classes: Three Instructors, One Experience," *International Electronic Journal of Mathematics Education* 1, no. 1 (2006): 1–15, <http://dx.doi.org/10.29333/iejme/168>.

⁶ Doris A Christopher, "Interactive Large Classes: The Dynamics Of Teacher/Student Interaction," *Journal of Business & Economics Research (JBER)* 1, no. 8 (2011), <http://dx.doi.org/10.19030/jber.v1i8.3040>.

⁷ James Arvanitakis, "Massification and the Large Lecture Theatre: From Panic to Excitement," *Higher Education* 67, no. 6 (2013): 735–745, <http://dx.doi.org/10.1007/s10734-013-9676-y>.

⁸ T L Wentling, J Park, and C Peiper, "Learning Gains Associated with Annotation and Communication Software Designed for Large Undergraduate Classes," *Journal of Computer Assisted Learning* 23, no. 1 (2007): 36–46, <http://dx.doi.org/10.1111/j.1365-2729.2007.00197.x>.

the quality of teaching. Ebreberg et al.⁹ noted that there is a linear relationship between classroom size and the quality of education received. Furthermore, it is also difficult for lecturers to ensure that all students are actively participating in class discussions and learning activities. Similarly, lecturers experience difficulty in managing a large class and maintain discipline which has often contributed to class disruption and a loss of lecturing time. Additionally, large classes have been found to be more difficult for lecturers to maintain the level of two-way communication with their students that is required to maximise student learning¹⁰.

Assessment and grading

Academics staff often encounter difficulties in large volumes of marking and grading students' assignments or exams, which have contributed to the delays in providing adequate feedback to students¹¹. Additionally, lecturers find it challenging to ensure that marking and grading is consistent and fair across many students mainly where there are budgets allocated for independent markers¹². In large classes, it is challenging for lecturers to assess students effectively as shown in most cases where they resort to general assessments. This is because it takes a lot of time to mark and grade large number of assignments or exams as well as providing timely individual feedback to students. The adoption of online assessments on the other hand have often been marred with disruptions due to system problems such as internet breakdown, learning management systems failures and resulted in the postponement of assessments or lecturers resorting to assessing through other different medium which does not promote assessment integrity and quality of results Pravina¹³.

Resources and capacity constraints

Due to widespread lack of public funding for expansion, physical infrastructure at the institutions of higher education has not increased to match the increased enrolments. For instance, large classes have contributed towards the strain on limited resources, which includes lecture halls, library resources, computer lab resources, teaching materials, and equipment. This resulted in a lack of access to resources by majority of the students, which negatively affects the quality of their learning and understanding. Furthermore, Mulryan-Kyne¹⁴ pointed out that resources have also become a problem where few copies of prescribed books are often available in the library centres and the challenges of prescribing extra reading to students which is not always readily available to

⁹ Kimberly D Hudson et al., "Preparing Tomorrow's Professoriate: An Examination of Social Justice Language in Social Work PhD Program Manuals," *Social work education* 36, no. 4 (2017): 443–455.

¹⁰ Wentling, Park, and Peiper, "Learning Gains Associated with Annotation and Communication Software Designed for Large Undergraduate Classes."

¹¹ Andrew Ward and Alan Jenkins, "The Problems of Learning and Teaching in Large Classes," *Teaching large classes in higher education* (2014): 23–36.

¹² Moodley, "Challenges and Transformations: Counselling in a Multicultural Context."

¹³ Pravina, "Massification at Universities of Higher Learning in South Africa."

¹⁴ Catherine Mulryan-Kyne, "Teaching Large Classes at College and University Level: Challenges and Opportunities," *Teaching in Higher Education* 15, no. 2 (2010): 175–185, <http://dx.doi.org/10.1080/13562511003620001>.

students who belong to a large class. According to Pravina¹⁵ the increased enrolments of students in higher education institutions resulted in inadequate and insufficient space at the computer laboratories, library and writing centres amongst other facilities which negatively impact the quality of learning. Mohamedbhai¹⁶, identified that many institutions lack adequate infrastructure to cope with the increased numbers of enrolments for example, lecture halls, student accommodation, shortage of books and periodicals, non-functioning equipment and lack of proper maintenance to infrastructure and equipment. In recent years to date the country has witnessed a growing trend of student protests where majority of these challenges have been the cornerstone of these student strikes and these strikes in most cases negatively affect teaching and learning.

The design of existing curriculum may not be suitable for teaching large classes. Therefore, curriculum needs to be revised to take into consideration the challenges associated with teaching large classes, including the need for more interactive teaching methods and the use of technology to facilitate quality teaching and learning. Furthermore, a direct consequence of poor-quality teaching provision resulting from massification has been the increase in programmes offered by institutions of higher education losing their accreditation status. For instance, in 2017 four universities (Northwest University, Walter Sisulu University, University of South Africa and University of Free State) risked losing their accreditation for Bachelor of Laws qualification due to poor quality standards and curriculum in comparison the Council on Higher Education standards¹⁷.

Pressure on lecturers

Lecturers have faced challenges associated with lack of time to fulfil their responsibility of teaching and learning in large classes, while also having to be involved in community engagement and research. Combined, these responsibilities are often overwhelming and has led to lecturers resorting to the traditional methods of teaching and assessment which may not yield quality results¹⁸. According to Kerr¹⁹ institutions of higher education value research more than teaching innovations and the lack of institutional support for professional development has led to shortage of experts who can evaluate the teaching methods and strategies adequately and appropriately to improve quality of teaching large classes. This is further compounded in majority of higher education institutions where there are constant problems with poor infrastructure and technical

¹⁵ Pravina, "Massification at Universities of Higher Learning in South Africa."

¹⁶ Mohamedbhai, "Massification in Higher Education Institutions in Africa: Causes, Consequences and Responses."

¹⁷ Dinh Xuan Thu Pham, Pillay Hitendra, and Mergler Amanda, "Leadership Styles of Vietnamese Higher Education Leaders: Transformational, Transactional, or Laissez-Faire," *Can Tho University Journal of Science*, no. 07 (2017): 126–137.

¹⁸ Mulryan-Kyne, "Teaching Large Classes at College and University Level: Challenges and Opportunities."

¹⁹ Angelika Kerr, *Adult Learners in Ontario Postsecondary Institutions* (Higher Education Quality Council of Ontario Toronto, ON, 2011).

problems such as the unreliability of audio-visual equipment utilised in some large class venues which hamper effective delivery of the lesson ²⁰.

Kerr ²¹ argued that many lecturers recognised that teaching large classes require more resources and time for class preparation and that teaching large classes require lecturers to be very organised and structured which is not always the case due to time constraints. With the growing numbers of students due to increased enrolments, most institutions have been unable to attract and recruit suitable and qualified academic staff which resulted in an increased lecturer/student ratio, increased teaching workload and administrative responsibilities to the academic staff and leaving them with little or no time to devote to research which is a fundamental pillar of an institution of higher education. Furthermore, a relatively low number of academic staff members with PhD, which means that majority of academics are not in a position to be promoted to postgraduate programmes or to supervise research and this has increased pressure to the few academics to facilitate supervision of large numbers of postgraduate students ²².

These challenges can have a significant impact on the quality of teaching in large classes. To address these challenges and improve the quality of teaching in large classes, institutions should consider implementing strategies such as reducing class sizes, providing additional resources and support to instructors, using technology to facilitate learning and assessment, and adopting more effective teaching methods that promote active learning and student engagement. By doing so, institutions will ensure that students receive a high-quality education, regardless of class size.

Ways to mitigate challenges of teaching large classes and its impact the quality of teaching and learning

There are several ways which higher education institutions can consider in addressing the challenges associated with teaching large classes with the aim of improving the quality of teaching in learning. Some of the various ways to address challenges of teaching large classes which includes reducing class sizes into discussion rooms to promote active learning, use of technology to facilitate learning, creating a supportive learning environment, capacitating the library resource centres with adequate textbooks and other learning materials, new teaching methods which caters for students in a large class.

Reducing class sizes

One of the most effective ways to improve the quality of teaching in large classes is to divide them into small class sizes. This can be achieved by increasing the number of classes offered or by implementing caps on class sizes. Cooperative learning is regarded as an important element of small class cooperative work during teaching sessions and this has been recommended in the

²⁰ Pravina, "Massification at Universities of Higher Learning in South Africa"; Ahmad Fathoni Rodli et al., "Building a Culture of Learning to Accelerate the Advancement of Higher Learning," in *International Conference on Religion and Public Civilization (ICRPC 2018)* (Atlantis Press, 2019).

²¹ Kerr, *Adult Learners in Ontario Postsecondary Institutions*.

²² Mohamedbhai, "Massification in Higher Education Institutions in Africa: Causes, Consequences and Responses."

context of large class teaching at higher education level²³. According to Cooper and Robinson²⁴ small-group work or small class sizes can contribute to effective teaching and learning by promoting cognitive elaboration, enhancing critical thinking, providing feedback, promoting social and emotional development, and appreciating diversity.

Use technology in teaching

Mulryan-Kyne²⁵ highlighted that advancement in the use of technology may be adopted to enhance teaching and learning as well as assessment in large classes. This can be in the form of online discussion forums, online classes using Zoom or Microsoft teams platforms, video conferencing, and automated assessment grading systems. The use of online teaching resources is considered as an important aid that help solving the challenges of large-group activities, through the involvement of other learners and the readily available electronic resources inside and outside the classroom²⁶. Kerr²⁷ concurs and recommends that lecturers need to keep abreast of advances in pedagogical approaches and new technologies to better their large class teaching experience. Challenges of teaching large classes can be addressed through the use of information and communication technologies which includes learning management systems (Blackboard and Moodle) and blended learning. The use of learning management systems improves lecturers' accessibility to students and encourages interactions and participation in online discussions, improved communication between students and lecturers and between students themselves, and improved access to course content and other learning materials²⁸.

Incorporate active learning methods

Traditional lecture-based teaching methods have been identified to be less effective in large class setting. Instead, lecturers should incorporate active learning strategies such as group work, peer instruction, and problem-based learning. Active teaching and learning methods can be defined as strategies that promote the participation of students in a way that encourages them to perform tasks and activities towards their learning process, instead of the traditional passive experience²⁹. Furthermore, to ensure that teaching and learning are more active in large classes, lecturers can include brainstorming, short writing activities, class discussion, formative quizzes, debates, and

²³ Brenda Bryant, "Cooperative Goal Structure and Collaborative Learning," *Teaching of Psychology* 5, no. 4 (1978): 182–185, http://dx.doi.org/10.1207/s15328023top0504_2.

²⁴ James L. Cooper and Pamela Robinson, "The Argument for Making Large Classes Seem Small," *New Directions for Teaching and Learning* 2000, no. 81 (2000): 5–16, <http://dx.doi.org/10.1002/tl.8101>.

²⁵ Mulryan-Kyne, "Teaching Large Classes at College and University Level: Challenges and Opportunities."

²⁶ Oscar Jerez et al., "Which Conditions Facilitate the Effectiveness of Large-Group Learning Activities? A Systematic Review of Research in Higher Education," *Learning: Research and Practice* 7, no. 2 (2021): 147–164, <http://dx.doi.org/10.1080/23735082.2020.1871062>.

²⁷ Kerr, *Adult Learners in Ontario Postsecondary Institutions*.

²⁸ Ragini Moodley, "Understanding the Role of Teachers in Providing Welfare Care for Learners: A Teacher's Self-Study," 2015.

²⁹ Jerez et al., "Which Conditions Facilitate the Effectiveness of Large-Group Learning Activities? A Systematic Review of Research in Higher Education."

student presentations³⁰. Voekl³¹ found that reduction in active involvement by students in learning can lead to decreased course performance and therefore, active participation by students in the context of teaching and learning is an integral part of quality education. Additionally, active teaching is important as it creates learning environments that are student centred, acknowledge student diversity and that involve a reduction of student dependence on the lecturer for knowledge acquisition³².

Providing adequate resources and support to staff and students

To ensure quality of education, lecturers should be equipped with adequate resources and support to effectively teach large classes. In addition, students should be supported with adequate learning materials both on the online learning management systems as well as in library centres³³. Moreover, further support services can be provided which include training on effective teaching strategies, and maximum utilisation of online learning platforms and learning management systems³⁴. Higher education should ensure the provision of adequate infrastructure which includes lecturer halls and ICT equipment as well as constant maintenance to ensure the delivery of quality education.

Use of assessments to monitor and track student progress

Frequent assessments should be used to monitor student progress and provide constant feedback to students. In addition, lecturers and tutor assistants may use a variety of assessment methods, such as online quizzes, class activities, assignments, tutorial activities, and essays, to ensure that students are understanding the course material³⁵

A supportive learning environment

Creating a supportive learning environment will help students feel engaged and motivated. Lecturers should apply teaching styles that promote participation, provide timely individual student feedback, and create a sense of community in the class. Lecturers should incorporate more interactive teaching methods, such as group work discussions, peer instruction, and technology-assisted learning, to improve student engagement, performance and quality of teaching and learning³⁶.

By implementing these strategies, higher education institutions will be able to address challenges associated with large classes to ensure improved quality of teaching and learning and

³⁰ Mulryan-Kyne, "Teaching Large Classes at College and University Level: Challenges and Opportunities."

³¹ Donn Ritchie and Chris Volkl, "Effectiveness of Two Generative Learning Strategies in the Science Classroom," *School Science and Mathematics* 100, no. 2 (2000): 83–89.

³² Mulryan-Kyne, "Teaching Large Classes at College and University Level: Challenges and Opportunities."

³³ Mega Wulandari, "Moodle-Based Learning Model for Paragraph Writing Class," *Language and Language Teaching Journal* 18, no. 02 (2015): 73–90, <http://dx.doi.org/10.24071/llt.2015.180201>.

³⁴ Mulryan-Kyne, "Teaching Large Classes at College and University Level: Challenges and Opportunities."

³⁵ Wentling, Park, and Peiper, "Learning Gains Associated with Annotation and Communication Software Designed for Large Undergraduate Classes."

³⁶ Jerez et al., "Which Conditions Facilitate the Effectiveness of Large-Group Learning Activities? A Systematic Review of Research in Higher Education."

graduates produced. These will help to ensure that students receive a high-quality education, regardless of class size.

Monitoring the strategies of addressing challenges of teaching large classes

Monitoring and evaluating the challenges of teaching large classes and their impact on the quality of teaching and learning in South African higher education institutions can be done through a systematic and comprehensive approach. Here are some strategies that can be employed:

Class observations and evaluations

A regular conduct of classroom observations can be used to assess the instructional practices and engagement levels of both students and lecturers³⁷. By doing so this may provide insights into the effectiveness of teaching strategies and the extent to which students are actively participating and learning in large classes.

Conducting student surveys

Student feedback can be gathered through administering anonymous surveys or feedback forms to students to gather their opinions and experiences regarding large classes teaching and learning and quality of education received³⁸. This feedback obtained from student surveys will be important for evaluation as it highlights specific challenges they face, such as difficulty in accessing resources or receiving individualised attention and provide suggestions for improvement.

Academic performance analysis

Another way is through analysing the academic performance data of students in large classes compared to smaller classes. For instance, this may include examining pass rates, course completion rates, and student grades and identifying any significant differences where additional support or interventions may be needed.

Monitoring graduation and retention rates

An evaluation can be conducted in the form of monitoring the graduation and retention rates of students in large classes³⁹. If there is a notable disparity between students in large classes and those in smaller classes, it may indicate the need for targeted interventions to enhance student success in larger class settings.

³⁷ Jerez et al., "Which Conditions Facilitate the Effectiveness of Large-Group Learning Activities? A Systematic Review of Research in Higher Education."

³⁸ Linda Westphalen, "Transforming Higher Education Teaching for Twenty-First-Century Skills," *Critical Perspectives on Teaching, Learning and Leadership: Enhancing Educational Outcomes* (2020): 45–60.

³⁹ Johann Engelbrecht and Ansie Harding, "Teaching Undergraduate Mathematics on the Internet," *Educational Studies in Mathematics* 58, no. 2 (2005): 253–276, <http://dx.doi.org/10.1007/s10649-005-6457-2>.

Evaluation using learning analytics

The use of learning analytics tools and technologies to gather data on student engagement, participation, and progress in large classes⁴⁰. These tools will assist in providing insights into student behaviors, identify areas of improvement, and support lecturers in making data-driven instructional decisions.

Focus groups and interviews

Monitoring and evaluations can be conducted through the use of focus group discussions or interviews with both students and lecturers to gain qualitative insights into the challenges and opportunities associated with teaching and learning in large classes⁴¹. These discussions can provide in-depth perspectives and recommendations for improving the quality of education in larger classes.

Professional development and training evaluation

Evaluations can be conducted to assess the effectiveness of professional development programs and training initiatives designed to support lecturers teaching large classes⁴². In addition, assessing the impact of these programs on instructional practices, student engagement, learning outcomes and the quality of teaching and learning.

Conclusion

All stakeholders in the field of higher education should prioritise quality teaching and learning that is par excellence in all contexts. Class size has been identified as one of the most highly contested issues when discussing quality education. Providing a high-quality teaching and learning experience should be a priority shared between lecturers and students. Literature has provided strong evidence of lecturers being overwhelmed by the challenges of massification that have led to teaching large classes and of students being combined into such large classes to the extent that they are rendered voiceless. Although lectures will remain at the helm of the teaching and learning, the use of ICTs is integral to engaging students to maintain contact with the lecturer and other students using forums and discussion boards. Higher education institutions should equip the lecturers and student with adequate resources and infrastructure to enable delivery of quality of teaching learning. Lecturers are required to develop their lectures continually to be more interactive and student-centred to ensure quality of teaching and learning. To ensure quality of

⁴⁰ Kung Wong Lau, Pui Yuen Lee, and Yan Yi Chung, "A Collective Organizational Learning Model for Organizational Development," *Leadership & Organization Development Journal* 40, no. 1 (2019): 107–123, <http://dx.doi.org/10.1108/lodj-06-2018-0228>.

⁴¹ Greg Guest et al., "Comparing Focus Groups and Individual Interviews: Findings from a Randomized Study," *International Journal of Social Research Methodology* 20, no. 6 (2017): 693–708, <http://dx.doi.org/10.1080/13645579.2017.1281601>.

⁴² Laura Carlotta Foschi, "Teachers' Continuous Professional Development in Italy: An Analysis of the Results of the Teaching and Learning International Survey (TALIS)," *ITALIAN JOURNAL OF EDUCATIONAL RESEARCH*, no. 27 (2021): 52–64.

teaching and learning lecturers are expected to find creative and innovative ways of engaging their students in an interactive environment that will remove the stigma that large classes equal inferior education. This essay has provided ways and practical strategies that lecturers can employ to ensure that the student throughput and output is of a high quality regardless of teaching large class challenges. Large class pedagogy has been given a major boost by the introduction and development of learning management systems and other technologies. Higher education institutions should create an environment that is conducive both to teaching and learning will generate many quality students and lecturers who will be able to live up to the student's expectations. Furthermore, it is important for all stakeholders in higher education institutions to embrace the tools available to turn large classes into an opportunity of making the teaching and learning process enjoyable, interactive and productive aimed at producing quality graduates.

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