



## LEARNING ANALYTICS POLICY

<b>Approving Authority</b>	Council
<b>Date of Approval</b>	20 June 2019
<b>Version #</b>	1
<b>Effective Date</b>	1 July 2019
<b>Date last reviewed</b>	.....
<b>Revision date(s)</b>	.....
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## 1. INTRODUCTION

- 1.1. This Policy describes Learning Analytics, its usefulness for improving students' learning and teaching processes, and the principles for handling and using data from learning analytics at the Botswana Open University (BOU). Learning Analytics (LA) shall apply to any and all information gathered on students and staff from the University systems in the process of learning and teaching. The primary objective of LA is to facilitate and enhance students' acquisition of knowledge, skills and competencies to empower them for the global information and knowledge society. It has benefits for individual students and advances the University's strategic objectives.
- 1.2. Learning Analytics draws its data from learning and teaching systems such as the online learning management system, library databases and student management systems such as Integrated Tertiary Software. It is an emerging field of research and practice that has been defined as *"the measurement, collection, analysis and reporting of data about students and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs"* (Society for Learning Analytics Research). Learning Analytics is the use of intelligent data, learner-produced data and analysis models to discover information and social connections, and to predict and advise on learning. With data becoming increasingly intelligent, learner data, profile information and curricular data can be brought together for analysis. Lecturer, tutor and student data trails and profiles in relation to existing curricula can be analysed and used as a basis for prediction of learning attainment and for interventions to enhance student success.
- 1.3. Figure 1 below presents the Learning Analytics lifecycle in graphical form. The lifecycle starts with student activity in the online learning environment which generates data of different kinds, such as frequency of participation in discussion forums. This data becomes part of a dataset which can be linked with other datasets, such as those containing demographic information on students. These datasets can then be analysed in various ways to produce information that can be used to enhance the learning experience. For example, a student who has not been active in the learning management system for some time may be identified as at risk of dropping out and various interventions may be undertaken to encourage re-engagement with the course. The overall purpose of the learning analytics process is to benefit the University's stakeholders, including students, lecturers and institutional researchers.

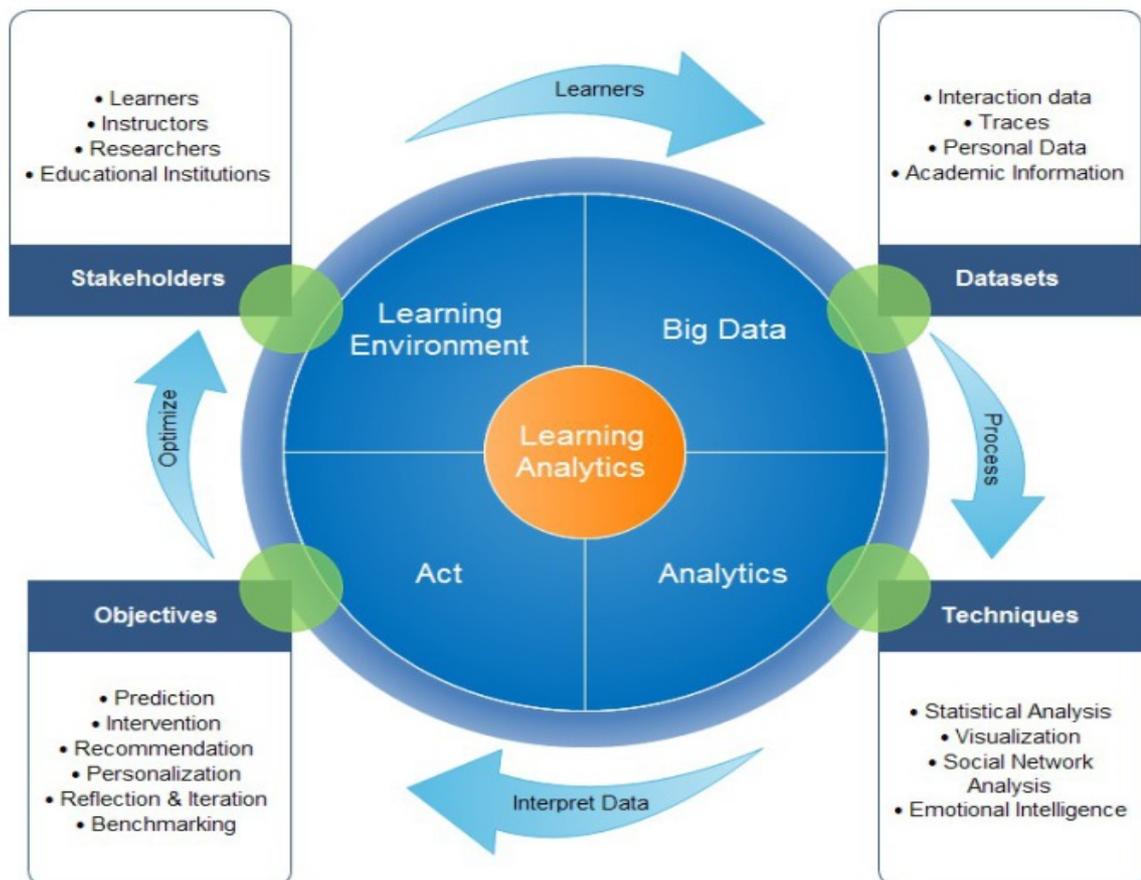


Figure 1: The Learning Analytics Lifecycle (Khalil and Ebner, 2015)

- 1.4. The Botswana Open University is committed to the use of contextualised Learning Analytics to enhance the academic success of its students. This Policy provides guiding principles and purposes for the use of Learning Analytics within the University and should be read, understood and implemented in conjunction with other University Policies such as the *Academic Integrity Policy* and others governing University operations. In particular, this Policy should be read in conjunction with the *Learning Analytics Strategy*, *Learning Analytics Procedures Manual* and *Student Guide to Learning Analytics*, which set out in detail how the University will manage learning data with regard to issues such as consent, ethics, transparency, privacy and access, retention and disposal. The Policy also takes cognisance of relevant data protection laws of Botswana and BOU data and record management policies.

## 2. Definitions

**Learning Analytics:** The analysis and interpretation of data collected from the University's digital platforms about students and staff for the purposes of enhancing learning and the environments in which it takes place.

**Student:** Means student of the Botswana Open University as prescribed by the BOU *Statutes* of 2017.

**Staff:** Means employee of the Botswana Open University as prescribed by the BOU *Statutes* of 2017 and includes academic and support staff.

**Third Party:** Means Individuals or organisations doing business with or on behalf of the Botswana Open University.

**Sensitive data:** Means data that must be protected from unauthorized access and use to safeguard the privacy or security of an individual or organisation.

## 3. Purpose

- 3.1. The collection and use of data about students and their learning and about staff is providing new opportunities for institutions to support students and to enhance educational processes. Learning Analytics systems present information on learning activity and provide predictions of attainment. These will be used at BOU to assist students in achieving their study goals, and to help the institution to improve the overall provision of education. The implementation of the Policy will contribute to the institution's strategic goal of improving students' success.
- 3.2. The institution will use Learning Analytics to help meet the following strategic objectives:
  - 3.2.1. **Quality assurance and quality improvement.** Learning Analytics give academics insightful feedback on the effectiveness of their courses, information on improvements they can make in course review and re-design processes, and can contribute to the quality assurance process.
  - 3.2.2. **Improved retention rates.** Learning Analytics provide students with an opportunity to take control of their own learning, give them a better idea of their current performance in real-time, and help them to make informed choices about their study programme. It helps academic staff to make informed choices about the delivery of their programmes.

- 3.2.3. **Equity.** Learning Analytics provide valuable insights for making education more inclusive for the diverse student population, including disadvantaged groups.
  - 3.2.4. **Individualised learning.** Learning Analytics enable the development and introduction of personalised learning delivered at scale, whereby students are directed to learning materials on the basis of their previous interactions with, and understanding of, related content and tasks.
  - 3.2.5. **Enhanced student experience.** Learning Analytics improve the student experience by ensuring that academic offerings align with the needs and goals of students and support satisfaction and wellbeing.
  - 3.2.6. **Enhanced lecturer experience.** Learning Analytics improve the lecturer experience by ensuring that academic offerings align with the needs and goals of students and support satisfaction and wellbeing.
  - 3.2.7. **Prediction of performance.** Learning Analytics can be used to understand the performance patterns of students and thus to make meaningful predictions of possible outcomes and trigger appropriate interventions.
- 3.3. The University will ensure that Learning Analytics is deployed for the benefit of students, lecturers and other staff with complete transparency about the data that is being captured, processed and used. All activities in this area will comply with national and institutional data protection policies, in particular the Botswana *Data Protection Act* of 2018 and the BOU *Records Management Policy* of 2017 and the BOU *Information Technology Policy* of 2017.

#### 4. SCOPE

- 4.1. The Policy covers and applies to all uses of Learning Analytics by students, staff and part-time tutors or any other members of staff involved in the learning process at BOU. Information will be used to improve the quality of learning, teaching and research.

## 5. RELATED DOCUMENTS

5.1. This Policy should be read and understood in conjunction with the following national and institutional documents:

- *Botswana Data Protection Act of 2018*
- *BOU Records Management Policy of 2017*
- *BOU Information Technology Policy of 2017*
- *BOU Student Guide to Learning Analytics*
- *BOU Research Ethics Policy*

## 6. POLICY STATEMENT

6.1. The Botswana Open University is committed to the use of Learning Analytics for the enhancement of student learning and improvement of the student experience. This Policy provides overarching principles that will inform all Learning Analytics use for learning, teaching and research within the University, as follows:

### 6.2. Transparency and consent

The use of Learning Analytics is based on consent. Students and University staff will be explicitly asked to consent to their data being used in Learning Analytics as part of the enrolment procedure and employment policies respectively. The ethical issues relating to the use of data in academic research are further covered by the University's *Research Ethics Policy*.

The data for Learning Analytics comes from a variety of sources, including the student and Staff members record system, the Learning management system and Library databases. The *Student Guide to Learning Analytics* in particular clearly specifies:

- 6.2.1. The data sources being used for Learning Analytics.
- 6.2.2. The specific purposes for which Learning Analytics are being used.
- 6.2.3. The metrics used and how the analytics are produced.
- 6.2.4. Who has access to the analytics and why.
- 6.2.5. Guidance on how students can interpret any analytics provided to them.

- 6.2.6. The interventions that may be taken on the basis of the analytics.

Students and other staff will be asked for their consent for any automated prompts or suggestions to be sent to them based on the analytics. These may include emails, SMS messages or app notifications.

Learning Analytics is separate from assessment. Metrics derived from data sources used for Learning Analytics will not be used for the purposes of assessment, and information on lecturers and other staff members will be used to only improve the quality of learning, teaching and research.

### **6.3. Confidentiality**

Personally identifiable data and analytics on individual students and staff will be provided only to:

- 6.3.1 The student, lecturer and other staff members involved.
- 6.3.2 BOU staff members who require the data to support students in their professional capacity.
- 6.3.3 Third parties in clearly defined circumstances. Aggregated data or de-identified data, at the level of detail required for the task, and within the law, will be provided to third parties which are processing Learning Analytics data on behalf of the institution, or legally required data, following a formal agreement. In such circumstances the University will put in place contractual arrangements to ensure that the data is held securely and in compliance with University and national policies.
- 6.3.4 Other individuals or organisations to whom the student or staff member gives specific consent.
- 6.3.5 Pre-identified University staff through their specific University role will have access to systems and data in order to maintain proper functioning of systems rather than to access any individual's data.

#### 6.4. Sensitive data

"Sensitive data" is defined as data that must be protected from unauthorized access and use to safeguard the privacy or security of an individual or organisation.

The *Botswana Data Protection Act, 2018* defines unlawful use of "sensitive data" by those in possession of it. Any use of data for Learning Analytics will be fully guided by the Act and by the relevant IT and Records Management Policies of the University.

#### 6.5. Validity

The quality, robustness and validity of the data and analytics processes will be monitored through the Centre for Instructional Technology, (CIT) which will use its best endeavours to ensure that:

- 6.5.1. Inaccuracies and gaps in the data are understood and minimised.
- 6.5.2. The optimum range of data sources to achieve accurate predictions is selected.
- 6.5.3. Spurious correlations and conclusions are avoided.
- 6.5.4. The algorithms and metrics used for predictive analytics and interventions are valid.
- 6.5.5. Learning Analytics is seen in its wider context, and is combined with other data and approaches as appropriate.

#### 6.6. Access to personal data

- 6.6.1. BOU will ensure that mechanisms are in place to enable students and staff to access their personal data, and the Learning Analytics performed on it, at any time in a meaningful, accessible format. Students and staff are allowed to request correction of any inaccurate personal data held about themselves.
- 6.6.2. Students and staff may, on request, also be able to view any metrics derived from their data and any labels attached to them.
- 6.6.3. In certain circumstances, BOU may consider that access to the analytics could have a negative impact on the student's academic progress or wellbeing. In these cases, the data may be withheld from the student.

## 6.7. Interventions

A range of interventions based on the Learning Analytics may take place with students, lecturers and other staff in order to improve student success. The types of intervention and what they are intended to achieve are fully documented in the *Student Guide to Learning Analytics*.

Interventions, whether automated or human-mediated, will normally be recorded. The maintained records will be subject to periodic reviews as to their appropriateness and effectiveness. These may include:

- 6.7.1. Prompts or suggestions sent automatically to the student via email, SMS message or mobile app notification (subject to the student's consent).
- 6.7.2. Staff contacting an individual on the basis of the analytics if it is considered that the individual may benefit from additional support.

## 6.8. Minimising adverse impacts on the student experience

- 6.8.1. The University recognises that Learning Analytics cannot present a complete picture of a student's learning or lecturer's teaching, and that predictions may not always be accurate.
- 6.8.2. Students and lecturers will retain autonomy and accountability for, decision-making relating to their learning and teaching. The analytics are provided to help inform their own decisions about how and what to learn and teach.
- 6.8.3. Analytics presented to students and lecturers are intended to help them understand how their learning and teaching is progressing, and suggestions may be made as to how they can improve their practices. Students and lecturers are responsible for assessing how they can best apply any such suggestions to their learning and teaching.

## 7. POLICY IMPLEMENTATION

- 7.1. The implementation of the *Learning Analytics Policy* will be enhanced through involvement of staff, students and stakeholder participation, ensuring proper analysis, prediction and other uses in quality processes and key activities of the University. The roles and responsibilities in the implementation of the *Learning Analytics Policy* are as follows:

- 7.1.1. **Council** – Provides governance oversight of the implementation of the Policy through regular reports from Senate.
- 7.1.2. **Executive Management** – Ensures accountability and resources for implementation of the Policy.
- 7.1.3. **Senate** – Oversees and monitors the development of a culture of using Learning Analytics data and information for the improvement of learning and teaching.
- 7.1.4. **Academic Policy Programmes and Quality Assurance Committee** – Has responsibility for the University-wide overview implementation and management of the *Learning Analytics Policy*.
- 7.1.5. **Boards of Schools, Departments, Institutes and Centres, and Divisional Management Teams** – Ensures implementation of the Policy within their areas of responsibility.
- 7.1.6. **All Staff** – Learning Analytics is taken to be everyone's responsibility in the University and therefore the Policy and its implementation applies to all.
- 7.1.7. **Centre for Instructional Technology** – Provides the technical support for the comprehensive implementation of the Policy, including the management of information and all compliance processes. The Centre is also responsible for capacity-building to implement the Policy.

## 8. REVIEW

This Policy shall be reviewed every three years or earlier as necessary.