PROCEDURES FOR LEARNING ANALYTICS

Office responsible:	DVC Teaching and Learning
Approved by:	SENATE
Date of approval:	

1. PROCEDURES PURPOSE

The Learning Analytics (LA) procedures and guidelines aim to develop an institutional framework for ethical, transparent and effective use of learning analytics at Sol Plaatje University (SPU). The objective is to enhance student success, learning, and teaching excellence by utilising data for timely and personalised support, informing institutional strategy, and improving the overall learning environment. The framework contributes to the SPU strategic goals (mainly 4.3 and 4.4) in creating a data-informed culture empowering students and staff, respect for privacy and uses evidence to foster a student-centric approach that is inclusive, supportive and transformative.

2. DEFINITIONS OF TERMS

Learning Analytics (LA): "The measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs" (Siemens, 2011: p34). LA is dynamic, formative, and personalised, focusing on the student/lecturer (micro) level.

Academic Analytics (AA): the use of statistical techniques and predictive modelling on aggregate institutional data to improve organisational processes, resource allocation and strategic decision-making. AA focuses on the national (macro) and institutional (meso) levels.

Student Data: all data related to students' interactions within the institution, including but not limited to:

- *Biographical/Demographic:* age, gender, nationality, etc.
- *Academic:* admission, registration, marks, etc.
- *Engagement:* Learning Management System (LMS, Moodle) clicks, student support usage, attendance, assignment submissions, etc.
- *Well-being:* access to counselling, health services, financial aid, etc.
- *Derived data:* predictions, risk ratings, or any analytics generated from the above.

Intervention: a proactive, supportive action based on analytics insights to support an individual or group of students (e.g., academic advising session, wellness session, workshop).

Algorithms: a model with defined steps and rules that processes data to calculate a result, such as predicting academic risk.

3. SCOPE

The procedures are guided by the national legal framework, specifically the Protection of Personal Information Act (POPIA) and the institutional data management policy. The procedures and guidelines apply to all:

- SPU staff (academic and professional support), students, and third-party contractors who collect, process, analyse, or act upon institutional student data to support student learning and success.
- Projects and processes involving using student data for analytics, including developing dashboards, early warning systems, predictive analytics models and research initiatives.
- Student data is defined in the document, including all source systems (e.g., student support systems, LMS, library systems, etc.).

4. PRINCIPLE

The approach is grounded in Siyaphumelela's seven principles (outlined in Prinsloo, 2017), which ensure that our practices are relational, just and enabling:

- **Moral relational duty:** learning analytics must be used for empowerment and support, not to perpetuate existing inequities and/injustices.
- **Collaborative Success:** student success should be viewed as a collaborative process between the student, the institution, and the broader societal context.
- **Data as Partial and Framed:** learning analytics data provide glimpses and proxies of complex student lives and cannot completely provide a full picture. Therefore, we acknowledge the limitations and potential biases in the collected data.
- **Student Data Sovereignty:** Students are not just data points; their data is an integral part of their being; therefore, they are the owners of their information.
- **Accountability:** the institution is accountable to students for the ethical use of their data and for using insights to improve understanding and support.
- **Transparency:** All processes for data collection, analysis, access, and use must be transparent, and communication must be open and easily understandable to all stakeholders.
- **Co-Responsibility:** learning analytics is a collaborative partnership, where students and the institution share responsibility for successful learning outcomes.

5. PROCEDURES

5.1. Transparency, Communication and Consent

- Clear and accessible student data guidelines should be made available to all stakeholders.
- The guidelines should, in simple language, explain what data is collected, how it is used for analytics, who has access, the benefits and potential risks, and spell out student rights.
- A document with a common institutional LA language will be created and made available to all stakeholders.
- Informed consent should be sought. Students should provide informed and explicit consent for their data to be used for LA purposes beyond mandatory reporting (e.g., DHET).
- The implications of giving or withholding consent should be clearly outlined.
- Students have the right to opt out of the use of their data for LA. The institution should communicate transparently and clearly that opting out may limit its ability to provide proactive, personalised support.
- Students may not opt out of the data collection and reporting required by law.

5.2. Data management, Access and Security

- Data owners are responsible for the accuracy and timeliness of data entered into the source systems.
- Access to LA dashboards and underlying data will be strictly role-based in line with defined responsibilities.
- Data for institutional research, reporting and benchmarking should be anonymised, and only aggregated data should be reported.
- All student data should be stored and communicated using the institution's approved and secure methods and infrastructure.
- Third-party vendors must comply with the data protection agreements.

5.3. Intervention Protocol

- All interventions should be supportive and connect students with resources.
- The logic for risk threshold should be documented, validated and regularly reviewed to mitigate bias and false positives/negatives.
- Academic advisors and/or staff working with alerts should be trained on ethical data interpretation and conducting supportive interactions with students.
- Key metrics, such as reduction in dropout rate or participation in support, should be used to measure the effectiveness of interventions to close the loop and ensure that the LA process leads to success.
- All the LA systems should provide a transparent workflow, including:
    - *Task/action:* the person responsible for acting on the insight.
    - *Support:* resources available for the intervention.
    - *Documentation:* record of the action and outcome.
    - *Evaluation:* Close the loop and specify how the effectiveness of the intervention is measured.

5.4. Capacity Building, Training and Professional Development

- Analytical capacity building and data literacy should be implemented across the institution.
- Compulsory training focusing on ethical interpretation and reporting of LA data should be provided to all staff accessing LA systems. The training should include interpreting dashboards, providing supportive interventions, understanding bias in data and POPIA requirements.

- Resources should be developed to enhance students' data literacy and help them understand and use their own data for self-regulated learning.
- Develop skills to support the LA process, aggregate non-typical data (e.g., LMS data), and visualise the results to support micro-level analysis.

5.5. Review, Evaluation and Audit

- LA interventions' effectiveness and impact should be evaluated annually.
- Regularly audit the algorithms and risk models for bias, accuracy and fairness.
- A detailed audit trail of the data analysis process should be maintained to ensure dependability and confirmability.
- LA should be incorporated into internal and external quality assurance review processes.

6. RESPONSIBLE STAKEHOLDERS FOR IMPLEMENTATION

Stakeholder	**Key Responsibilities**
Executive Leadership- DVC Teaching and learning, Deans and Directors.	• Champion the ethical use of LA • Resource allocation • Foster a data culture in learning and teaching in their respective portfolios • Use data insights for strategic planning.
Registrar	• Manages central student data • Supports reporting and anonymisation processes • Bridges the functions of academic analysis (AA) and learning analytics (LA).
Ethics Review Committee	• Reviews and approves research projects using student data in LA. • Ensures alignment with POPIA and ethical guidelines.
IT Division	• Develops and maintains secure technical infrastructure. • Integrates systems. • Ensure data security. • Implements role-based access controls.
Professional support staff- DSA, CTLPD, library, and faculties.	• Interpret student data and conduct supportive interventions. • Input and maintain quality data in their systems. • Act as data clients for student support.

Learning Analytics Core Group	• Provide strategic oversight. • Approves LA projects. • Ensure ethical compliance. • Reviews algorithms for bias. • Champion the LA strategy.
Students	• Primary beneficiaries and data subjects. • Engage with own data through dashboards. • Participate in support interventions. • Provided feedback on LA initiatives.
Academic Staff	• Use LA insight to inform learning and teaching practices. • Provide targeted student support. • Participate in training. • Uphold ethical principles in data use.

7. Contextual challenges and mitigation

Acknowledging existing contextual challenges and the lasting effects of historical inequalities, we should be mindful of:

- **Data siloes:** - efforts need to be taken to ensure all systems are integrated to overcome the fragmentation.
- **Resources:** - Implementation requires financial, technological, and human resources. Therefore, a phased approach is recommended.
- **Macro to Micro:** There should be an active effort to shift from purely institutional reporting (AA) to actionable, student-level insights (LA).
- **Mitigating negative impacts:** - A constant practice review should ensure LA does not reinforce discriminatory attitudes or stereotypes.

The procedures and guidelines document is a living document and will be reviewed biennially and/or as needed in consultation with the university community.