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1. Preamble

1.1. This strategy covers all aspects of the use of Learning Analytics in relation to student education and training in core programmes. It sets out the College's purpose for and practice in the use of Learning Analytics.

1.2. The principle is that learning analytics is used to enhance the quality of student education, and to improve student success. IICP College recognises that the use of learning analytics data requires strong data stewardship and management and robust ethical practices.

1.3. The College will use learning analytics to:

i. Support individual learners through actional intelligence for students, teachers and professional staff;
ii. Help understand cohort behaviours and outcomes;
iii. Improve student retention rates;
iv. Create efficiencies in student support processes;
v. Help understand and enhance the learning environment.

1.4. This is an evolving strategy designed to initiate activity in this rapidly evolving area. It is expected that this strategy will evolve as learning analytics is embedded within the College.

2. What is Learning Analytics?

2.1. The College employs the definition of learning analytics adopted by the Society for Learning Analytics Research[1] (SoLAR):

> "Learning analytics is the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimising learning and the environments in which it occurs".[2]

2.2. Learning analytics is used to enable students and staff to work together, ethically and transparently, to understand individual learning journeys and circumstances, to support students to reach their full potential and to maximise their chances of success.

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[1] Society for Learning Analytics Research (SoLAR), https://www.solaresearch.org/about/

[2] Siemens, G., Gasevic, D., Haythornthwaite, C., Dawson, S., Shum, S. B., Ferguson, R., et al. (2011). *Open learning analytics: An integrated & modularized platform. Proposal to design, implement and evaluate an open platform to integrate heterogeneous learning analytics techniques*. NY: SoLAR, P. 4. Available online at https://solaresearch.org/wp-content/uploads/2011/12/OpenLearningAnalytics.pdf

3. Principles

3.1. Students and staff will be fully informed on the data collected, how it is used and where it will be shared, to ensure transparency.

3.2. College staff will make use of learning analytics data to support students' progress.

3.3. The College's Strategy and Code of Practice on learning analytics will guide all activity. It will be regularly reviewed and provided to all staff and students.

4. Purposes

4.1. IICP College use learning analytics for descriptive, predictive and prescriptive purposes.

4.1.1. **Descriptive Analytics** provides information on what has happened or what is happening. This provides an informed, evidence-based understanding of the current situation. An example might be a description of the use by students of a particular Moodle resource.

4.1.2. **Predictive Analytics** uses modelled historical data to predict likely outcomes of current or future situations. An example might be looking at previous students that had withdrawn early and those that had continued in their studies, to try to identify patterns of behaviour that correlate with one outcome or the other.

4.1.3. **Prescriptive Analytics** also uses modelled historic data, with the aim of developing courses of action that are likely to have a successful outcome. An example might be using historic data on the types and timings of interventions that had been employed in the past and whether they had the desired result. This data could be used to identify interventions for current or future students that are most likely to succeed.

4. Code of Practice for the use of Learning Analytics

4.2. Learning analytics will be used in accordance with a written Strategy and Code of Practice that is made available to the College community.

4.3. Learning analytics will be used to support student education, student well-being, and students' outcomes.

4.4. The College will collect learning analytics data transparently and ethically, and ensure that where data are shared, it is clear where the consent lies and with whom data are shared.

4.5. The College will communicate with students and staff about the rationale for use of learning analytics.

4.6. Learning analytics will be used to enable staff to have data-informed conversations with students about their individual progress and support needs.

4.7. The College will use learning analytics data to improve its processes and practices, for the benefit of staff and students.

4.8. The College will provide training and support for staff in the appropriate and ethical use of learning analytics data.

4.9. Data generated from learning analytics will be used to generate management information about teaching quality and for enhancement purposes.

5. Benefits of learning analytics

5.1. The benefits of implementing a learning analytics strategy for students include:

a) Students will have visibility of their individual learning analytics data held by the College;

b) Students will be able to make effective use of data, based on their own activities, to enhance their learning;

c) Meetings with personal tutors will be better informed allowing for more personalised and nuanced conversations.

5.2. The benefits of implementing a learning analytics strategy for staff include:

a) Staff will be able to make effective use of learning analytics data to support student learning and success, and enhance communication;

b) Staff will be able to have more informed conversations with students around their academic performance, progress and wellbeing.

5.3. The benefits of implementing a learning analytics strategy for the College include:

a) Students can be identified, and supported, to improve retention and address differential degree attainment;

b) Student services can be focused towards students most likely to benefit from intervention and support;

c) Evidence can be gathered to support effective decisions about curriculum, educational interventions and student education strategy;

d) Institutional data can be analysed to improve student education and student support;

e) The College will meet the expectations of staff and external partners, in relation to use of learning analytics to support learning and improve the student experience.

6. Sources of Data

6.1. The most widely-used source of data is student interactions with the virtual learning environment, Moodle. Section 9, supporting documentation, outlines the data that can be collected on users of Moodle.

6.1.1. In general, teachers can see course-specific usage data that Moodle collects on everyone enrolled in a Moodle course. Anyone with a student role in a Course can only see their own usage data. The College has access to information such as: whether and when a student downloaded course readings, viewed links, submitted quiz answers or assignments, or posted to a forum. Students cannot access data relating to other students within a course.

6.2. Learning Analytics can also use Data from a vast array of sources including Student Information Systems (MIT), library usage, attendance data, and participation in online forums.

7. Uses to which the data may be put

7.1. Learning Analytics data can be used by IICP College for a range of purposes including the following:

- It can let teachers know which resources their students are using and how active they are.
- It can let students know how engaged they are with course material, relative to their peers.
- It can identify at-risk students and empower them to change their academic trajectory before they suffer any negative consequences.
- It can be used to identify students with sudden changes in engagement that can be indicative of a wide range of non-academic issues. By identifying students that may be facing personal, emotional, medical, social or financial challenges, LA can help support staff to intervene and provide relevant, targeted supports to students with the greatest need.
- It can identify and prescribe actions and resources that are most likely to yield a favourable outcome for students.
- It can inform the curriculum and programme design.

8. Privacy and Data Protection

8.1. Access to learning analytics data by students and staff at IICP College must be in line with all relevant policies. These include but are not limited to its Privacy Statement (https://www.iicp.ie/privacy-statement/) and any compliance requirements as identified by the College in its Data Protection Policies (https://www.iicp.ie/qam/).

8.2. Access to student data and learning analytics is restricted to those identified by the College as having a legitimate need to view them. These include, centrally:

- Students – accessing their own learning analytics data;
- Staff who need the data to provide support to students;
- Members of staff with responsibility for student education;
- Other individuals or organisations working with students as part of their learning
- Technical staff at the College and contracted agents who need to ensure functioning systems.

8.3. In the case of providing individual student support (including academic support and student care) it will be necessary to present learning analytics data where students are identifiable. These data will be available to the individual students they relate to, and at appropriate access levels to staff who have the relevant permissions to view them. Where learning analytics data are made available to other individuals or organisations, such as for supporting students working with external organisations, it will only be at levels appropriate for the support required, which might include identifying data. Outside of this, learning analytics data will be anonymised or pseudonymised as necessary for use.

8.4. Where data is to be used anonymously particular care will be taken to avoid:

- Identification of individuals from metadata;
- Re-identification of individuals by aggregating multiple data sources.

8.5. In accordance with the General Data Protection Regulation, students will be able to access all learning analytics performed on their data in meaningful, accessible formats, and to obtain copies of their data in a portable digital format. Students will be able to correct inaccurate personal data held about themselves.

8.6. In accordance with its data protection policies, the College undertakes a Data Protection Impact Assessments for its use of learning analytics across the organisation.

9. Supporting Documentation

9.1. Moodle Data

Standard Data Logging in Moodle

Logs in Moodle are activity reports. Logs are available at site and course level. Moodle logs events on the site by a user recording when; who, what they were doing, where they were doing it.

A typical Log entry logs:

- Date and time
- IP Address of user doing the task
- User doing the task (which is linked to profile data)
- User affected by the task
- Component
- Event name
- Description
- Origin

For example, it would record:

On the 7th September user Jane Smith, from IP Address 111.111.111.111 uploaded the assignment for Weekly Assignment 1 in the course Counselling Skills.

Events are filterable by Level

- Teaching level: an event or action performed by a teacher (usually) which affects the students' learning experience. This might be for instance, grading a student or adding a module to the course.
- Participating level: an event or action which could be related to a user's learning experience. This might be for instance a student posting to a forum or submitting an assignment.

4. Standard reporting

There are a number of reports that make use of this core data that are available to the College. These core Moodle course reports for teachers will be made available during the course and after the course to course owners and facilitators.

These include:

- *Logs report* This report shows the actual event logging for the users in that course and is filterable by participant, date, activity, action, educational level, and can be viewed on the page or downloaded.
  See
- *Activity report* A course activity report, showing the number of views for each activity and resource (and any related blog entries), that can by the College.
- *Participation report* A participation report for a particular activity can be generated by a manager, teacher or non-editing teacher. It lists the students

on the course and show what actions if any the user has performed on the specific activity.

It is an actionable report used in supportive teaching interventions.

See https://docs.moodle.org/32/en/Participation_report

- *Activity tracking* Activity completion allows the teacher to set completion criteria in a specific activity's settings. These may be set to be completed automatically, or manually set by the student or not tracked at all.

A check (tick) appears against the activity when the student meets this criterion. The criterion might be viewing, receiving a certain score or a student marking it as complete.

This tracking can also be used to require a student to complete a task before accessing another task.

The type of status are:

· manual - not yet marked as complete
· manual - enabled
· manually completed
· automatically completed
· automatically failed
· automatic - not completed
· automatically passed
· automatic - enabled

See: https://docs.moodle.org/32/en/Using_Activity_completion

- *Activity completion report* This report is available for the teacher / College to see all the students and the activities that are tracked and which are complete, not completed and failed attempts to complete.

In addition to reports, Moodle can be used to collect data through Surveys & Questionnaires. These include in particular Feedback Forms. Moodle has a built-in feedback tool that can be used to set a pre and post course questionnaire.

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