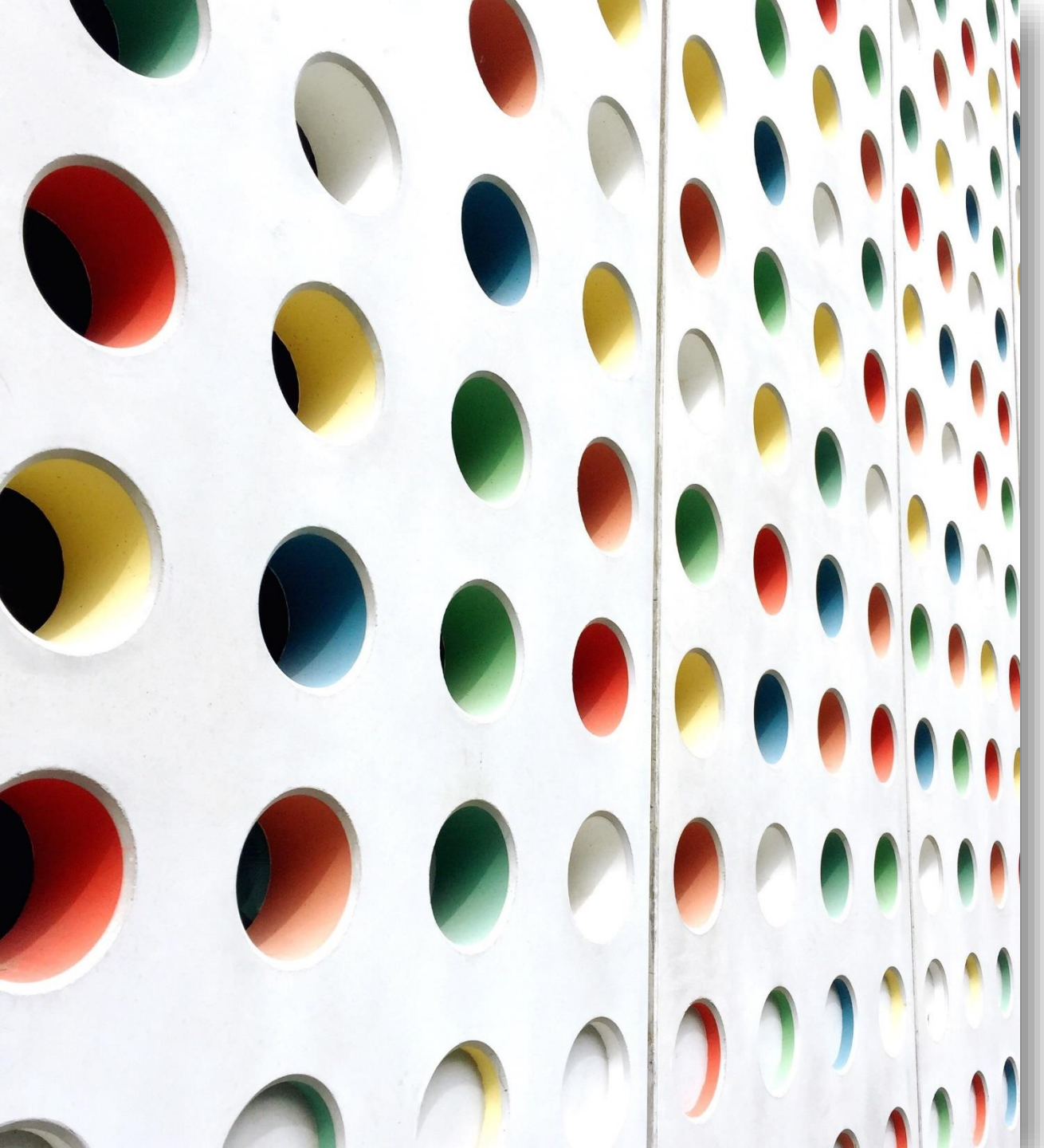


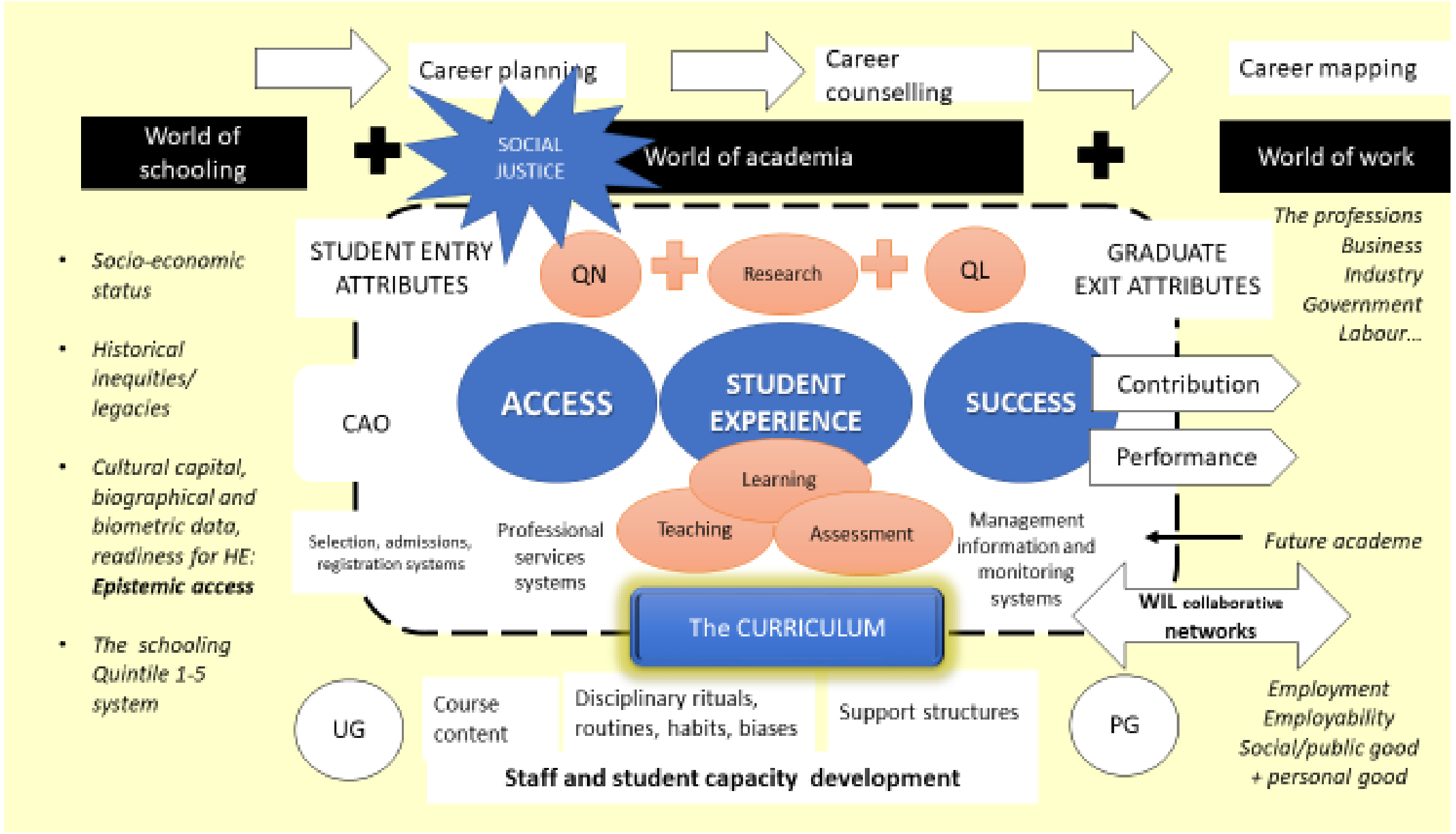
UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

UTLO
Every Student Matters

Siyaphumelela Convening

March 2023

Access and Success Advisory Forum (ASAF) Conceptual Framework



Highlights (since last update)

- **Professionalising Academic Advising:** Progress made in establishing Academic Advising Units in each College
- **Instructional Design Unit established:** 5 Instructional Designers appointment- focus on curriculum re-design for student success and learning pathways
- **Assessment Support Group (ASG)** – launched - various projects in process
- **First Year Experience:** Programme Development, Curriculum and Materials Design Completed and has being piloted – results imminent
- **Student Epistemic Access and Success-**Collaboration with University of Johannesburg in process
- **SASSE/LSSE** Engagement in progress: Encouraging findings
- **UTOP & ULOP –** Portals to enhancing access and success
- **Data Analytics Support Group**: Friday meetings – research groups engage with "critical friends" – projects now producing data
- **T & L Community Engagement** initiatives to promote student access and success
- **2023 Data Analytics Week:** Various training activities and consultations with Prof Victor Borden
- **2023 ASAF Symposium:** Scheduled for 23 March – open invitation to Siyaphumelea Network
- **2022 UKZN E-Learning Symposium:** Forum for disseminating Siyaphumelela/ASAF projects – upscaled to a conference in 2023

Recent Initiatives to Enhance Access and Success

SOTL Communities of Practice

- After hosting the E-learning symposium in 2021 and 2022, it has evolved to a conference in to be hosted in September 2023. The **innovations in the Scholarship of Teaching and Learning (iSoTL)** conference.

Academic Integrity

- An online **"Understanding Plagiarism"** course for all students has been developed to capacitate students. The online course exposes students to practical examples and content on the do's and don'ts of academic integrity.

Digital Transformation Initiatives

- **Digital Teaching and Learning Platforms -** The UKZN **Teach online Portal (UTOP**) and **Learn Online Portal (ULOP)** portals serve as a hub for teaching and learning applications and systems that enhance the student and lecturer experience. can now be accessed via https://utop.ukzn.ac.za & https://ulop.ukzn.ac.za.
- **Student digital competency survey** – an instrument to measure students' digital competency level is administered in the first-year experience online course. The insights from the data analysis will inform a personalised approach to providing support to students.
- **ACTive Teaching Online Course** – is an online course for lecturers to learn and experience how to design and deliver engaging online and blended courses to improve students' learning experiences.

Online Courses for Academic Monitoring and Support Tutors

- In ensuring that students get the best out of their tutorials and other types of academic support, online training for the tutors, teaching assistants, and academic development officers are now available.

Community Engagement

- **My DigiTutor** – is a partnership with UKZN **Enactus**. The project is a student-led digital tutoring initiative geared towards improving access to higher education by providing tutoring, career guidance, mental health and assistance with CAO & NSFAS applications to matric students.
- **ELET –** UTLO is in partnership with Environment and Language Education Trust (ELET), an NGO that impacts development and transformation through Accredited Skills Training, Environmental, Teacher and Learner Empowerment and Employment Creation Programs, emphasising marginalised and vulnerable Women and Youth.

Instructional Design

2022 HIGHLIGHTS

Responsibilities

Collaboration	Development	Marketing	Training
• Feedback & Revision. • Support	• E-learning material. • Toolkits	• Networking • Content Creation	• Workshops • Professional improvement

Creating Awareness

ID Expo

80% Campus-wide Expo Events hosted
374 Instructional Design Interactions

ID Website & Workshops

39 Hours of Group Online Workshops
42 Hours of 1-on-1 Engagement
49 Digital Champions Networked

Developing Resources

Student Engagement, User Experience & Taxonomy

9 Pedagogy Toolkits

WordWall, H5P, Padlet, Mentimeter, Flip Grid, Kahoot & EdApp.

6 EdTech Toolkits

4 Design Toolkits

Module Transformation

10 X Courses

CAES	CLMS	CHS	CHUM
30%	25%	25%	20%

Access and Success Advisory Forum (ASAF) Research Projects

	Project Title	Team Leader
1.	Graduate Attributes	Prof Nirmala Gopal
2.	Curriculum redesign for academic success	Prof Labby Ramrathan
3.	Activating and engaging the student voice	Ms Sethu Nguna
4.	At-risk identification & At-Risk Advising	Prof Randhir Rawatlal
5.	Students' Attitudes Towards E-learning	Prof Msizi Mkhize
6.	Student and staff expectations and experiences of student success	Prof Sadhana Manik
7.	Cum Laude Tracking	Dr Samukelisiwe Khumalo
8.	Entrenching the "blended" into blended learning	Mr Ashwin Manival
9.	Blended Integrated Student Support and Engagement	Prof Sinegugu Duma
10.	Innovations in transitioning to remote/online assessments	Dr Upasana Singh

- **Initial approach: Identified core areas, but also** outline framework & resources (access to analysis) – invite broader participation
- **8 main themes with 12 projects:** Ambitious, but creation of teams & high energy leaders; expected some projects to vanish
- **Feedback from Kresge/Saide**
- **ASAF Alignment with Siyaphumelela goals**
  - **Flagship:** Cum Laude, At risk identification, Assessment
  - **Continuing**: Student Voice, Curriculum Re-Design,
  - **Less aligned but potential**: Grad attributes, E-Learning, Expectations, Blended Learning
- **Still have 10 active**, with 7 completing data collection / analysis
- **High levels of collaboration**; most projects multidisciplinary, often representation from 3 or more different colleges
- Emphasis on operationalising

Professionalizing Academic Advising @UKZN

- Academic Advising (AA) Advisory Group established
- Establishing AA Unit in each College within the portfolio of the Dean of T & L.
- Mapping the International “AA” framework and models – completed – UFS Model adopted
- UKZN situational Analysis in progress
- 2 day workshop scheduled:
    a) (Day 1) long-term strategy and planning
    b) (Day2) AA Training for AMS and allied staff - designed and conducted by the AA Task Team

ACCESS AND SUCCESS

SYMPOSIUM

Hosted by the UKZN Access and Success Advisory Forum (ASAF)

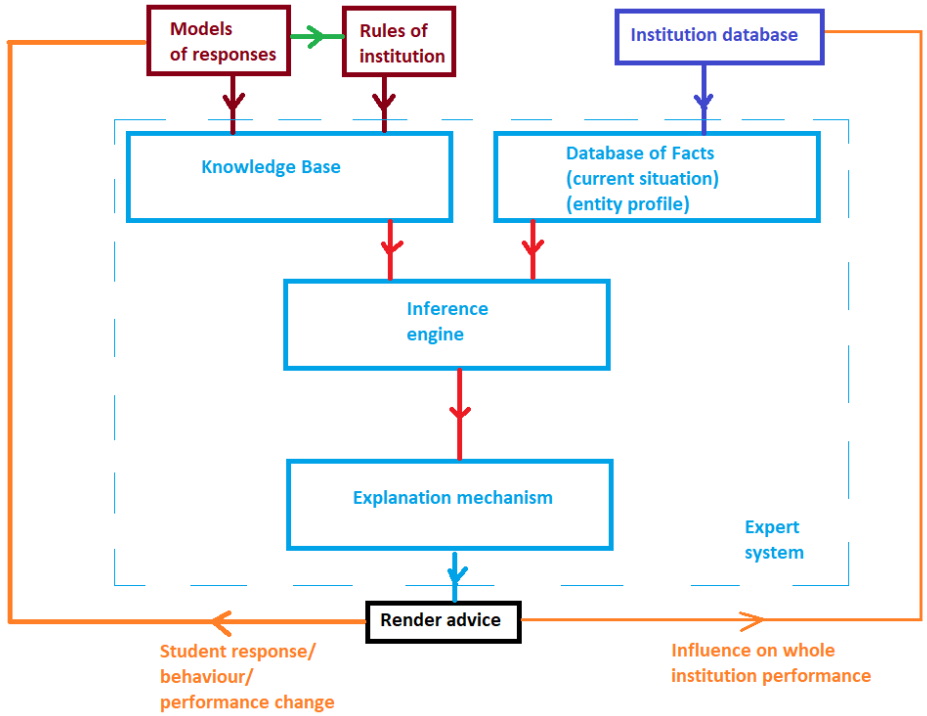
This Symposium provides a platform for the UKZN Access and Success Advisory Forum (ASAF) to present their Institutional research projects, designed to understand and enhance student access and success in higher education.

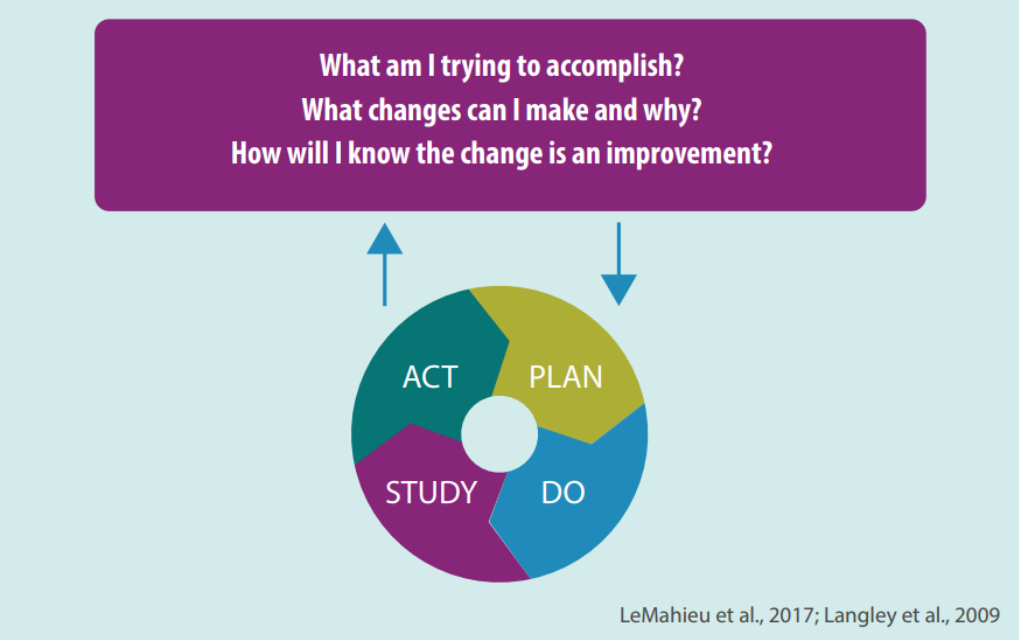
THEMES

1. Building a culture of using data for decision making
2. Developing systems for enhancing student success
3. Redesigning the curriculum for student success
4. Aligning the curriculum to advance valued graduate attributes
5. Evaluating efficiency & effectiveness of student support systems at UKZN
6. At risk identification: Students, courses and programmes
7. Assessment policy and practices that enhance student success
8. Investigating student exceptionality

PROFESSOR
VICTOR M. H. BORDEN
Indiana University Bloomington

ASAF Flagship projects

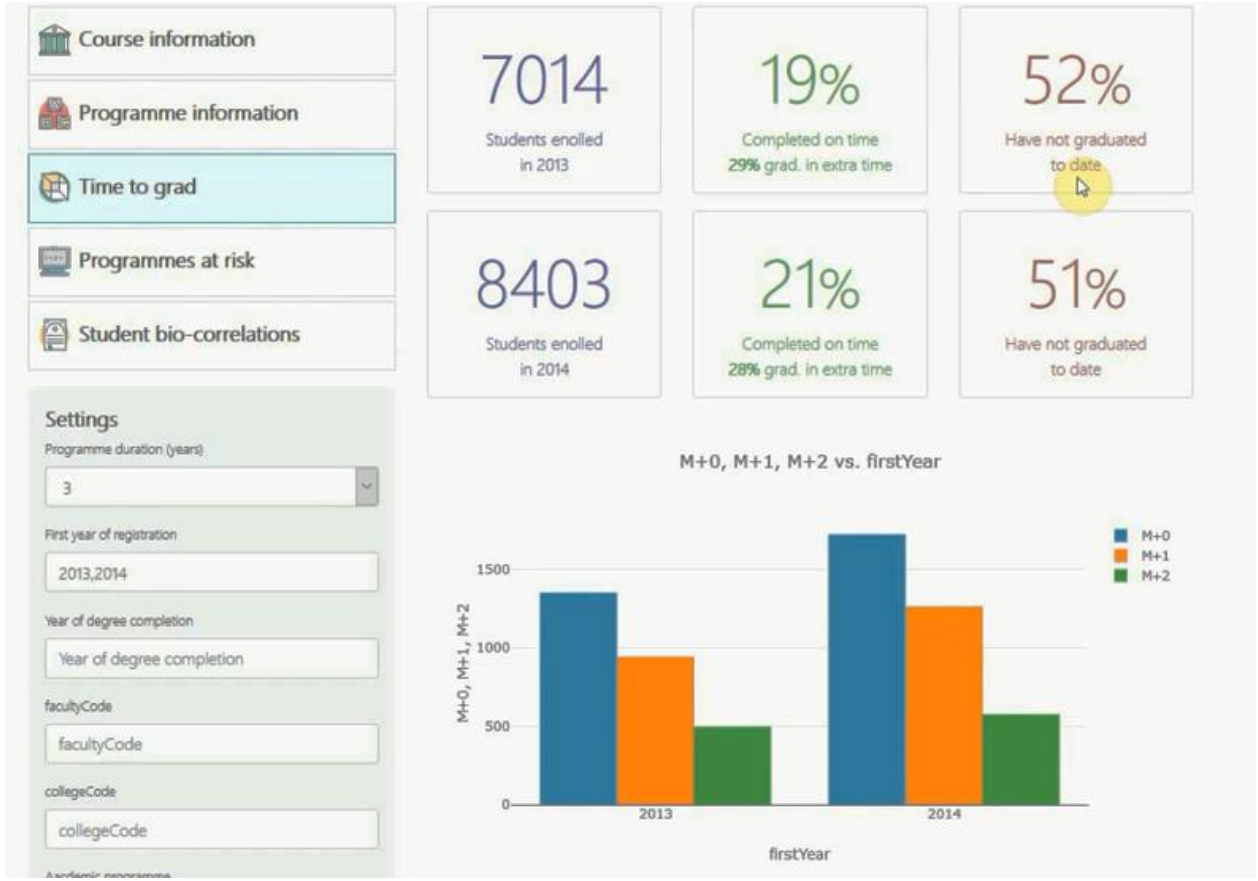


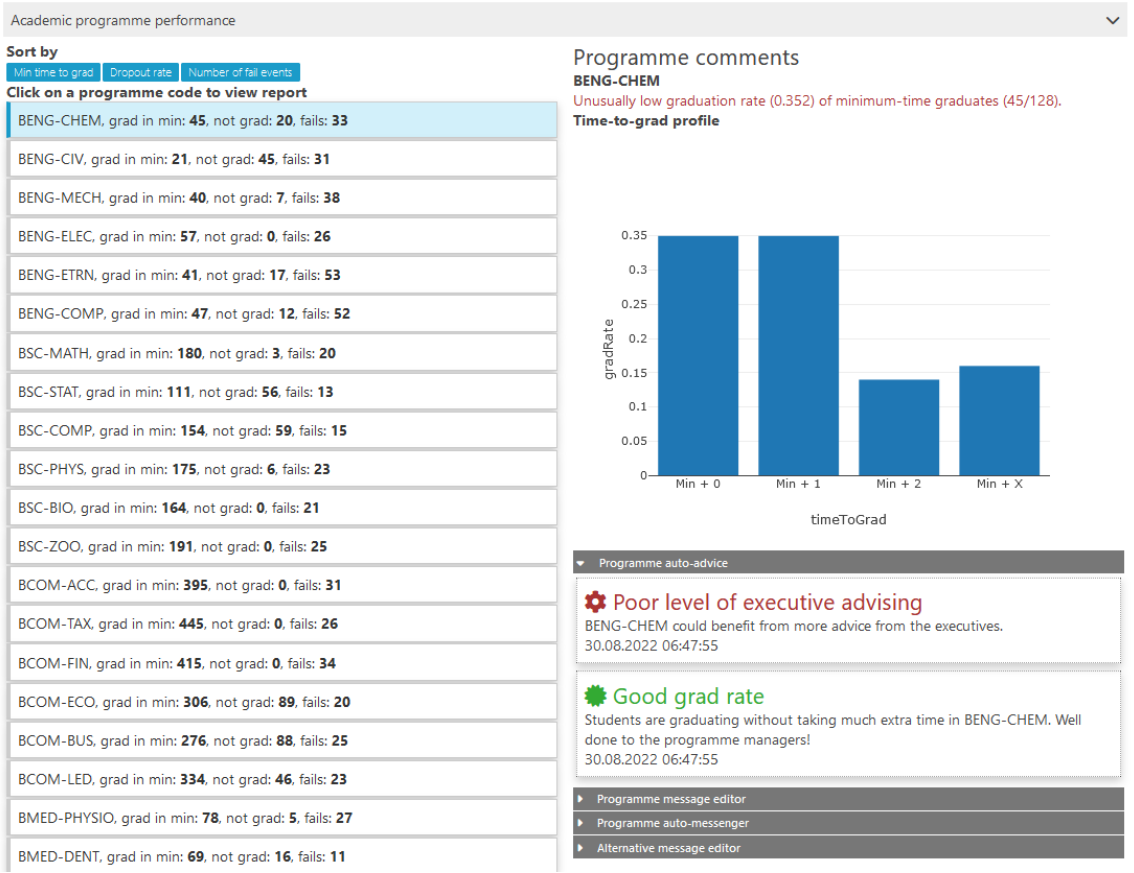


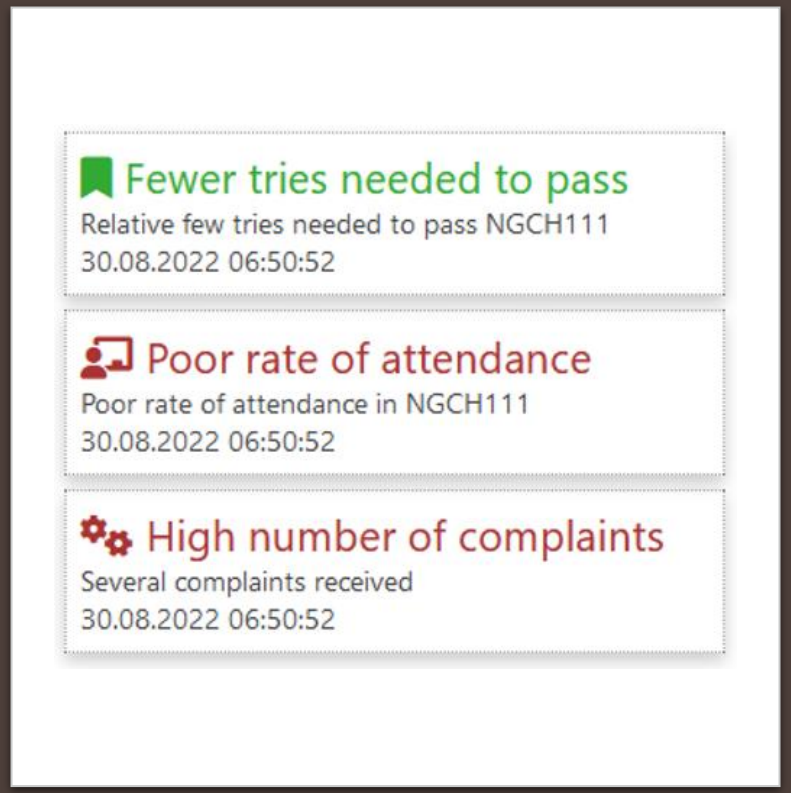
Advising at Scale

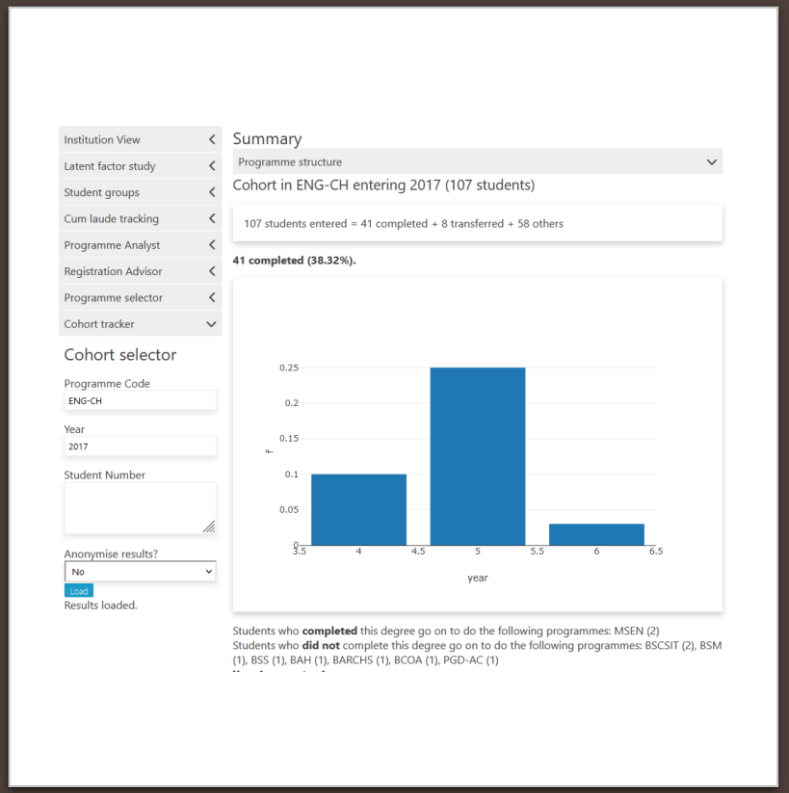
- Focussed custom advice to the person logging in (student, lecturer, support, leadership)
- Original advising – few safeguards, strong progress, contextualised
- To serve whole institution, move to more generalised
- Focus on action/intervention rather than analytics for own sake

Whole-institution Advising





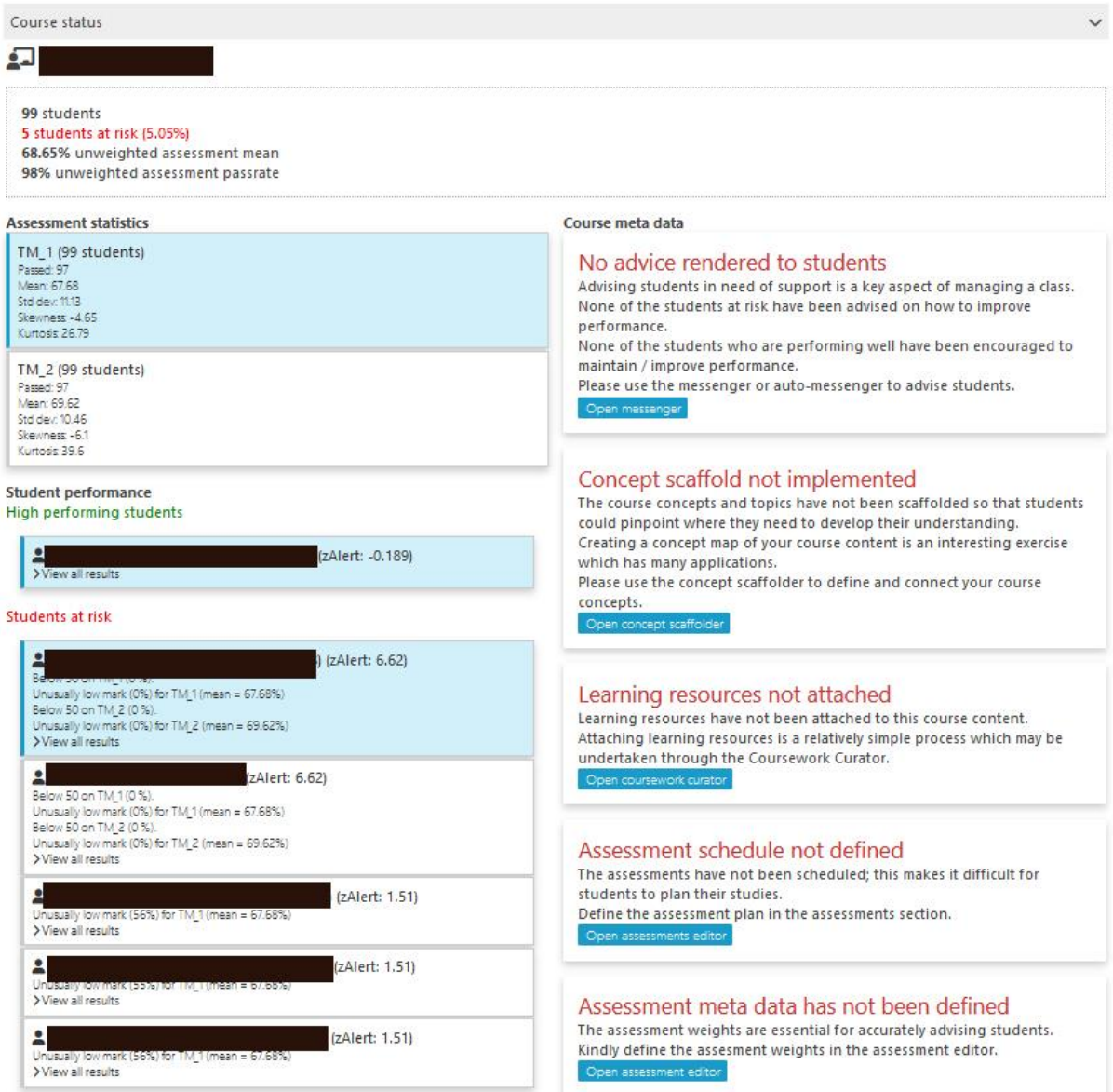




Academic Programme Advising

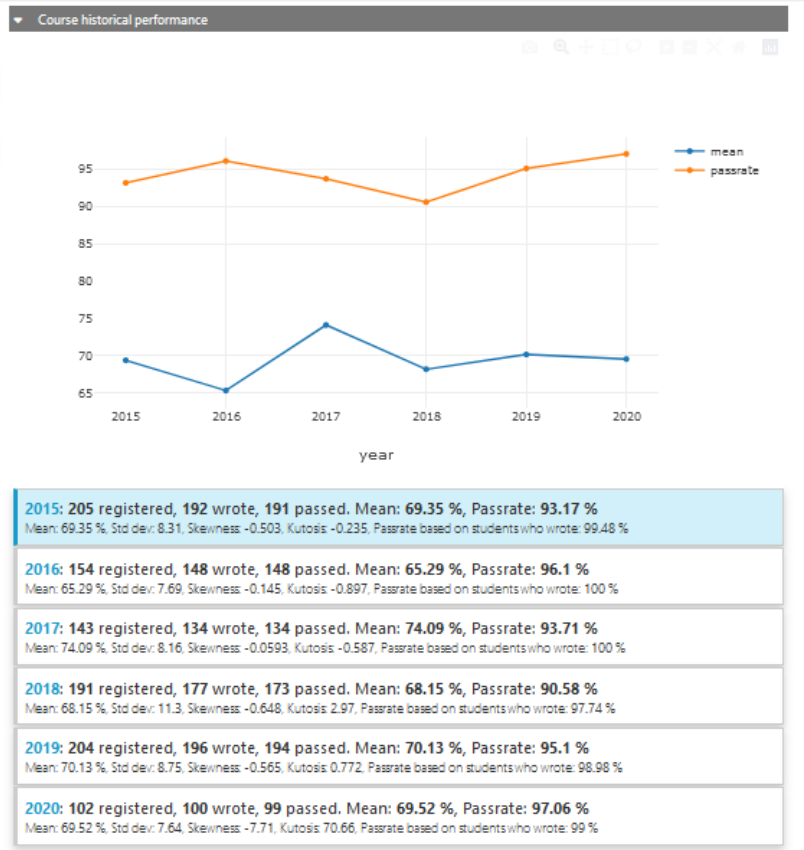
Lecturer Advising

- Academic advice
- Also direct to non-academic
- Promote good class organisation
- Promote use of modern teaching methods
- Increase awareness of student risk



Lecturer Advising

- Awareness of performance
- Peer course performance
- Less action oriented



Peer performance

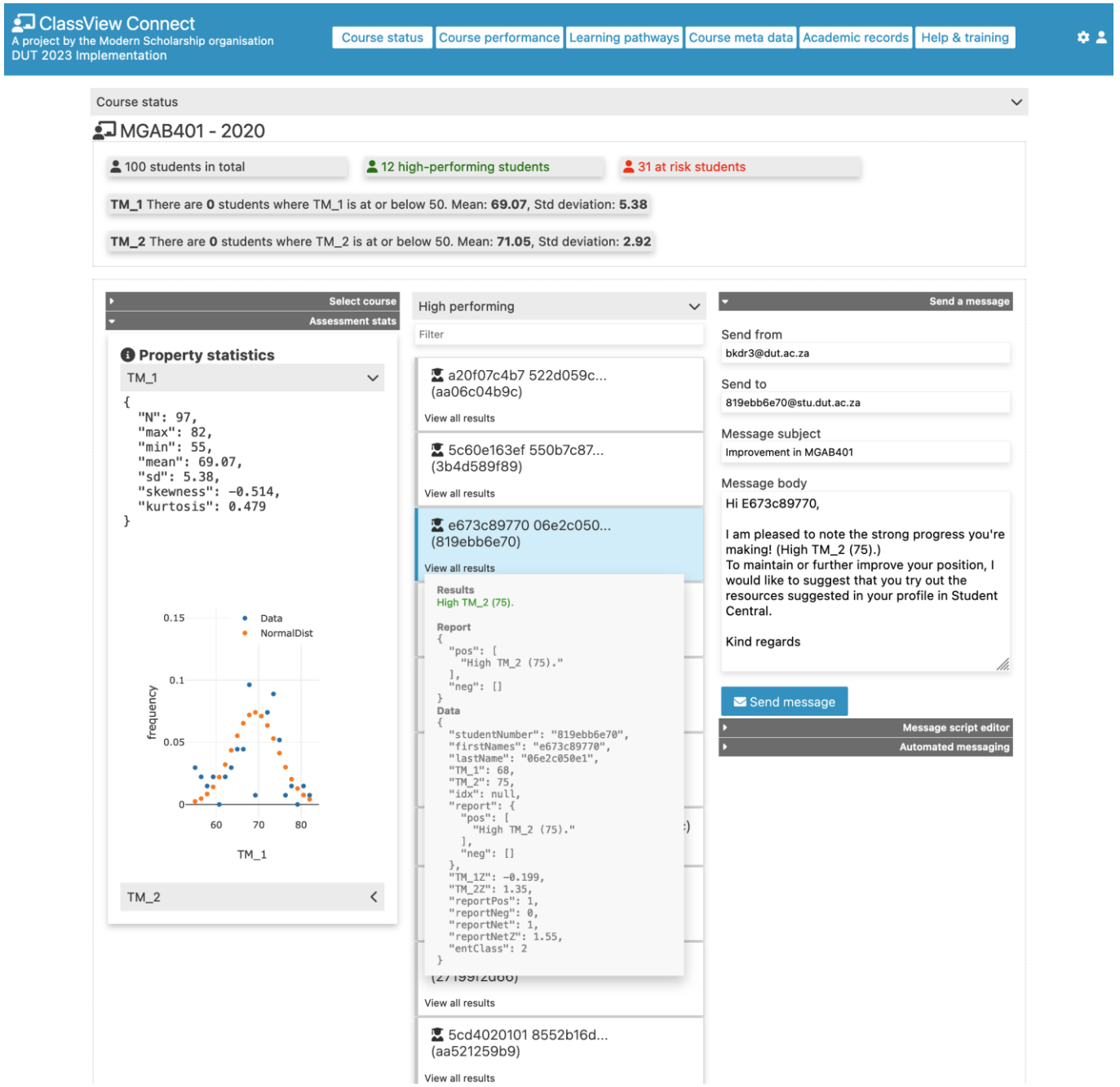
Copy CSV Excel PDF

Search:

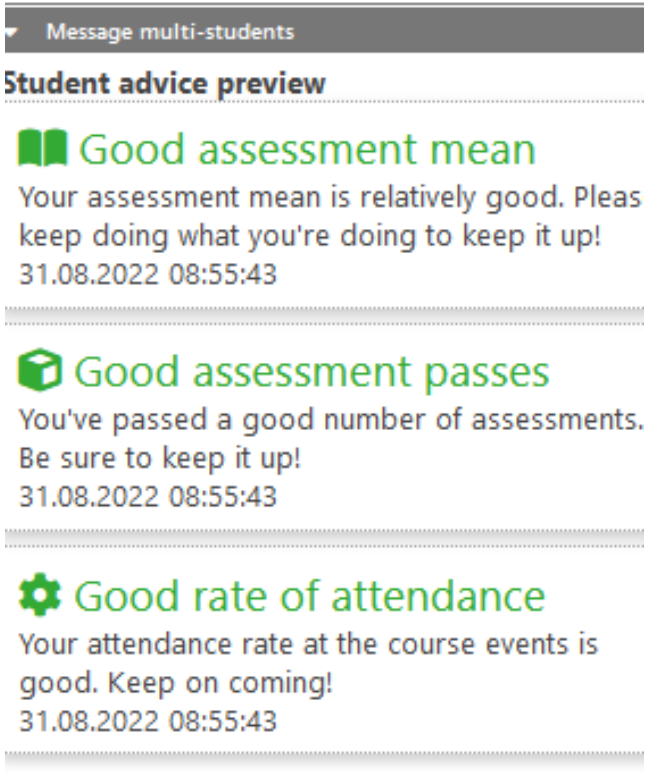
code	FNAB401	PDAB203	MGAB401	RMAB201	MKAB202	EXHS101
FNAB401	1	0.507	0.205	0.103	0.632	0
MKAB202	0.632	0	-0.291	-0.0312	1	0
PDAB203	0.507	1	0.443	0.124	0	0
MGAB401	0.205	0.443	1	0.139	-0.291	0
RMAB201	0.103	0.124	0.139	1	-0.0312	0
CCHM101	0	0	0	0	0	0

Lecturer advising – Student risk oriented

- Find students significantly under-performing
- Ease process of reaching out to students
- Automated messaging of whole class but custom scripting – each receives different context message
- Lecturer script editing



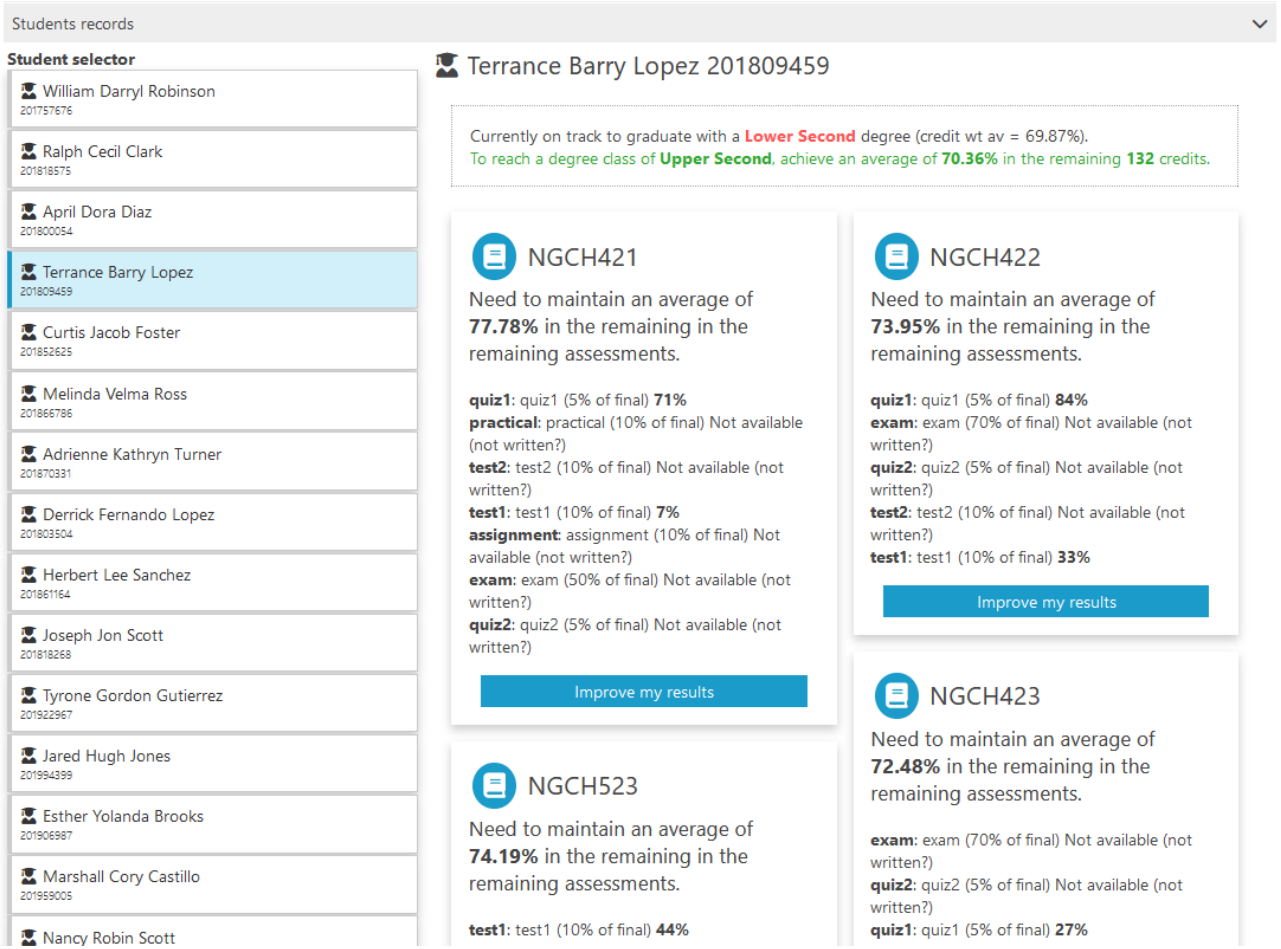
Generalise advising concept



- Alert and messages are an entry point
- Also generate awards
- Also trigger institution classifications, progression strategies, registration
- Trigger support interventions

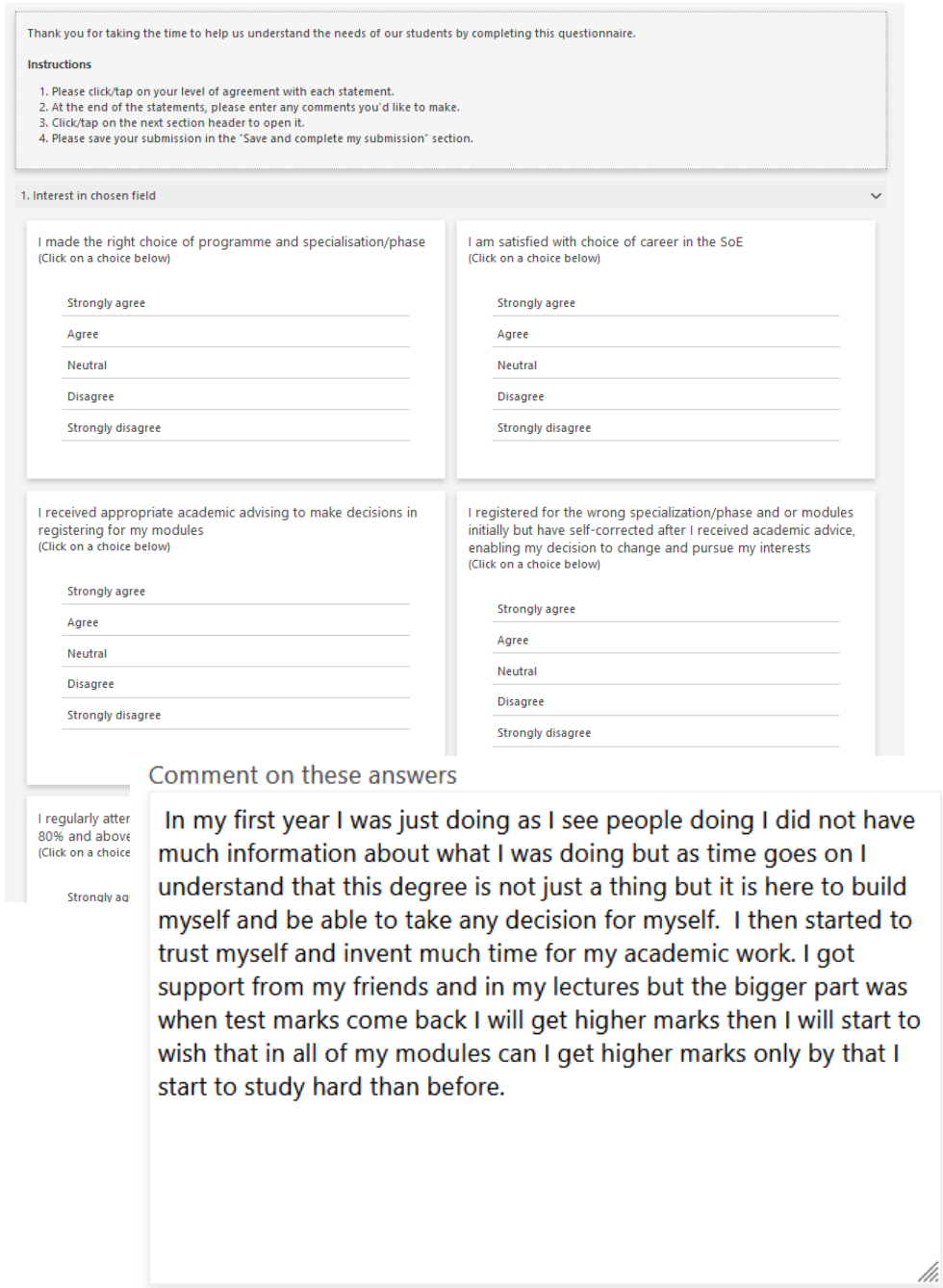
Student Advising (**AutoScholar Student Central**)

- Shift student interest from mere final pass to class of pass
- Original – cum laude advising
- Everyone was on track for summa cum laude at some stage
- When exit, class pass improvement still possible
- Track down to individual course assessments
- Specific and clear action
- “Improve my results”



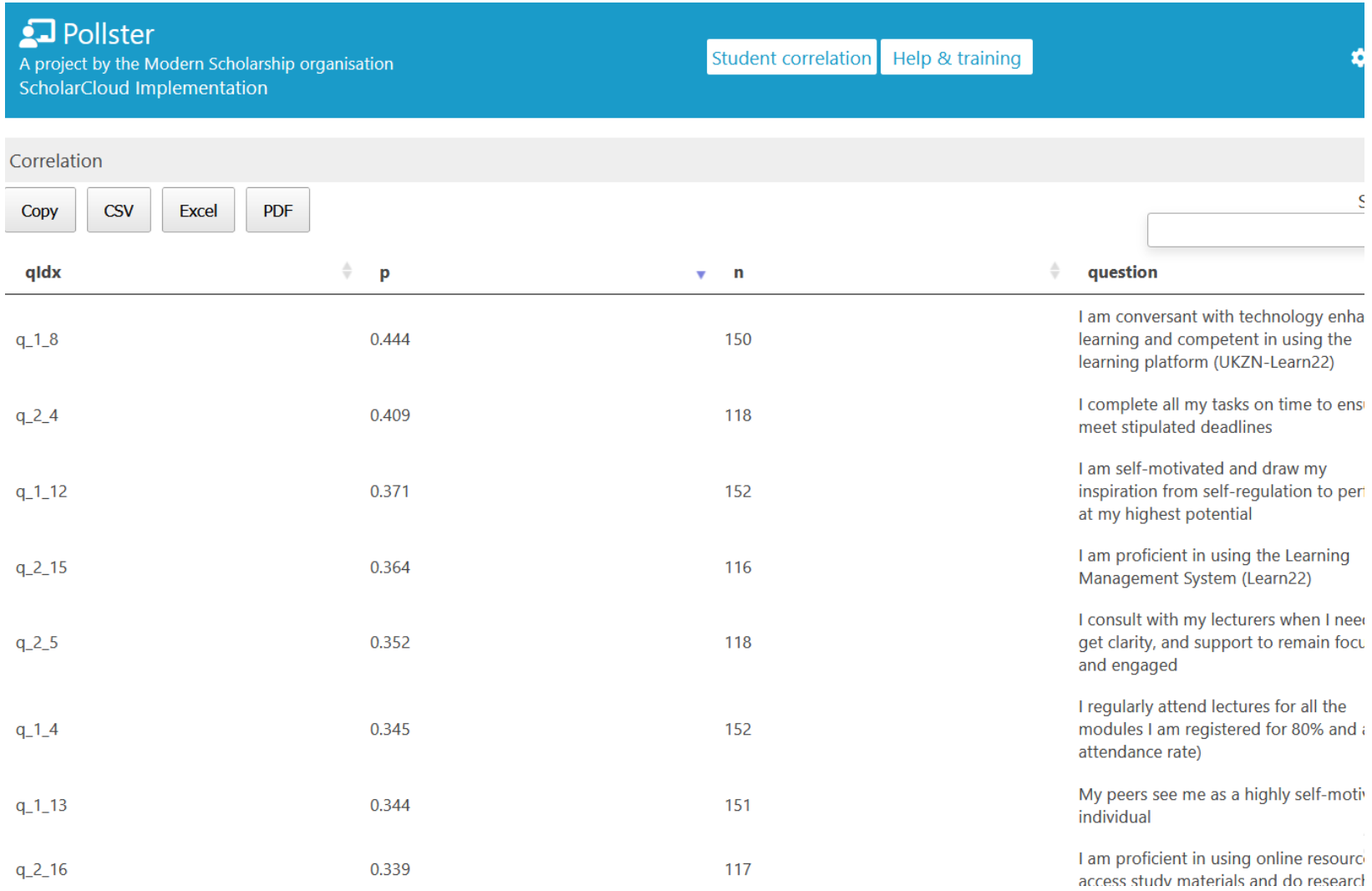
Cum Laude Project

- What's the difference between cum-laude and not-cum-laude?
- Extensive questionnaire which is still easy to answer
- Probes
  - Level of interest in chosen study area,
  - Study habits
  - Home environment
  - Institutional support
  - Social & peer factors
  - Funding & finance



Most positively correlated

- Pearson extrema:
  - 1: Perfectly correlated
  - 0: Completely scattered
  - -1: Perfectly inversely correlated
- Strongest factors appear to be
  - Choice of study and degree of motivation
  - Study habits



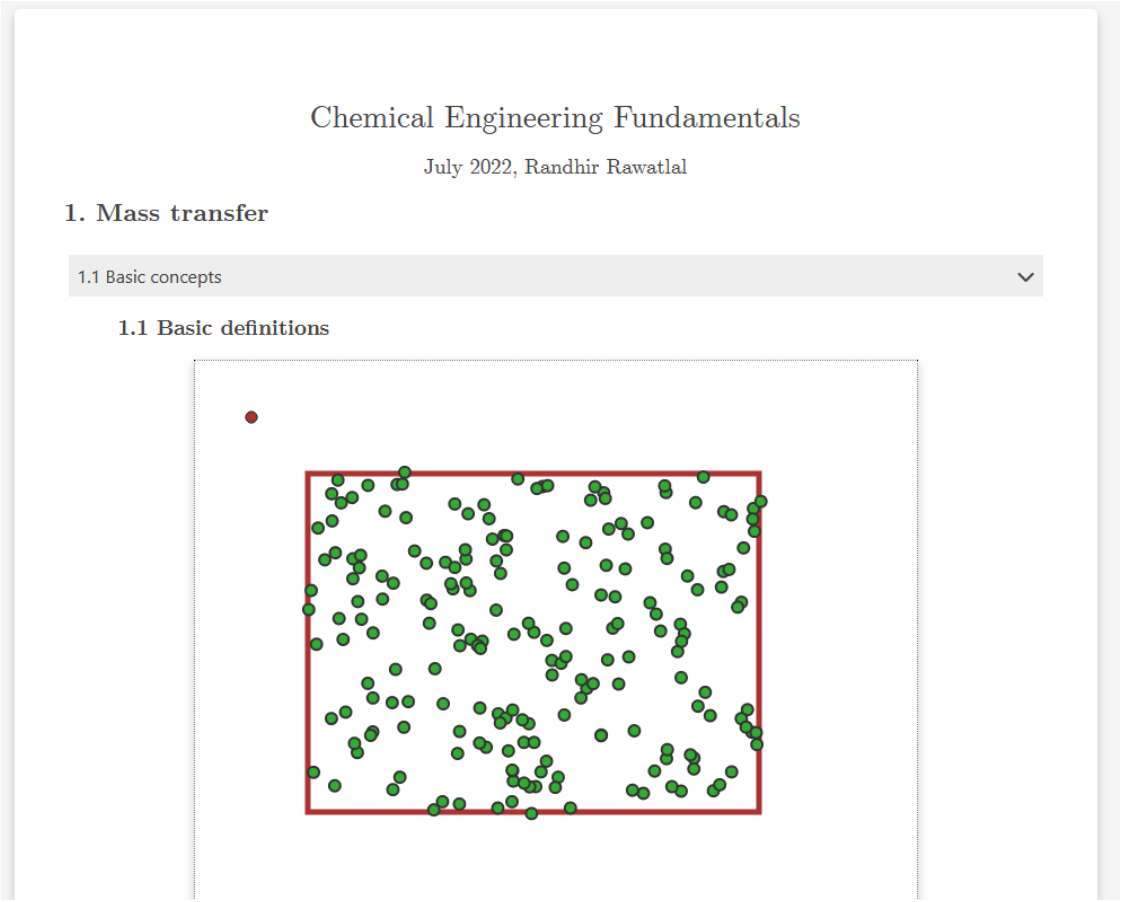
qIdx	p	n	question
q_1_8	0.444	150	I am conversant with technology enha learning and competent in using the learning platform (UKZN-Learn22)
q_2_4	0.409	118	I complete all my tasks on time to ens meet stipulated deadlines
q_1_12	0.371	152	I am self-motivated and draw my inspiration from self-regulation to per at my highest potential
q_2_15	0.364	116	I am proficient in using the Learning Management System (Learn22)
q_2_5	0.352	118	I consult with my lecturers when I nee get clarity, and support to remain focu and engaged
q_1_4	0.345	152	I regularly attend lectures for all the modules I am registered for 80% and a attendance rate)
q_1_13	0.344	151	My peers see me as a highly self-motiv individual
q_2_16	0.339	117	I am proficient in using online resourc access study materials and do researcl

Teaching and Learning

- General advising, progression – fine
- Nagging questions
  - Not really enough
  - Not accomplishing changes seen 15 years ago
  - How to access to “lower-level”, day-to-day, coalface, contextual teaching and learning
  - Too much context for a general programme?
- Framework & gen methods + context teachers

Attaching Teaching content – Publon Press

- Interactive creation of
  - Animated simulations
  - Latex documents
  - Fully rendered math equations
  - Auto-generation of assessment questions
  - Auto-grading of assessment questions
  - Self-testing and self-evaluation
  - Global repo of education content
  - Integrated ranking



Auto-gen, Auto-grade

- Questions including randomised values
- Auto-generated solution
- Modes include
  - Training
  - Class poll
  - Questionnaire
  - Credit-bearing assessment
- Extend range of question types
- Potential for NLP for non-MCQ

Example

An initially empty container of volume $5m^3$ fed with a liquid of density $1200kg/m^3$ by a pipe of diameter $2cm$ is filled after 60 minutes. What is the velocity of the flow?

Please click on your answer

0 m/s

0.000314 m/s

4.43 m/s

0.00139 m/s

My Grade

Your answer 4.43 m/s is worth: **1 marks**

We first calculate the area as $A = \pi.d^2/4 = 0.000314m^2$. We note that the flowrate is

$$\dot{V} = \frac{\Delta V}{\Delta t} = 0.00139m^3/s.$$

The velocity is then

$$u = \frac{\dot{V}}{A} = 4.43m/s.$$

Student response

Message received from Class Representative

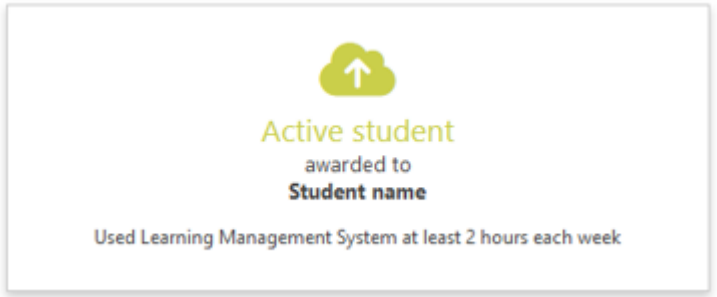
firstNames	lastName	q1	q3
Thubelihle Lusizo	Msimang	50	50
Michaela	Perumal	25	25
Azrah	Adam	15	15
Mohamed Mustapha	Abdul Aziz	12	6
Elton Reason	Mnisi	10	13
Krivania	Dorasamy	10	10
Matthew Jerade	Chetty	10	0
Neha	Rajpal	8	6
Nashlin	Pillay	7	0

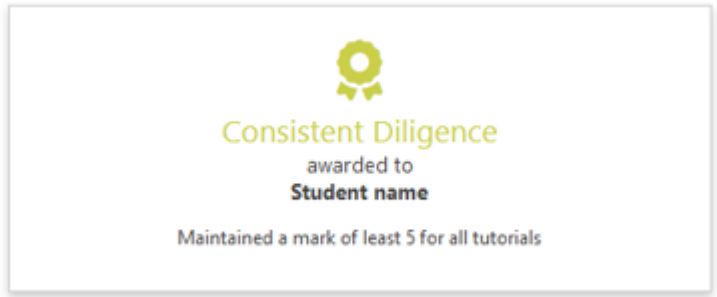
From:
Sent: Thursday, 08 September 2022 15:11
To:
Subject: Publon

Greetings Sir .
We humbly asking you to put some questions on publon if it's not inconvenient for you .
We would like to utilize it in preparation for the test .
Thank you

Get Outlook for iOS

0





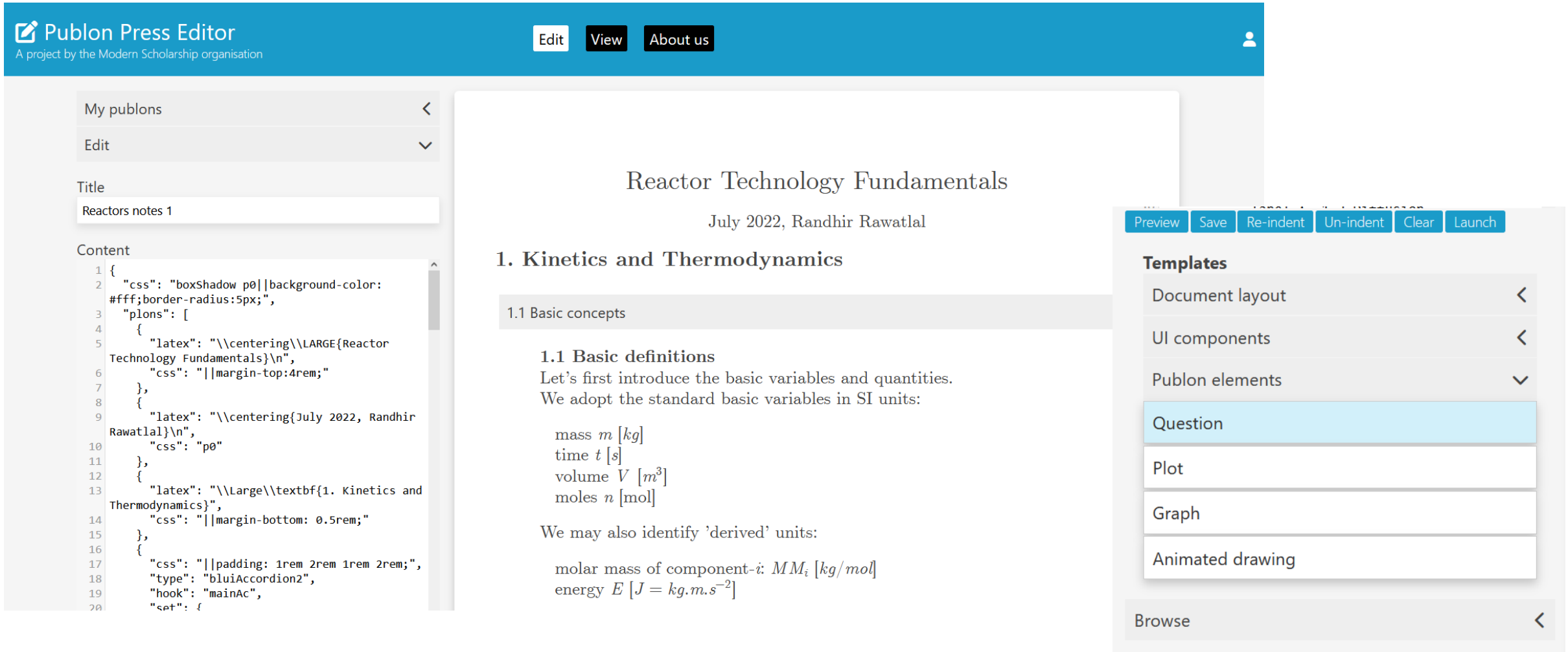
firstNames	lastName	q1	q3	q4
Haneefa	Abdul Aziz	5	4	3
Manelisiwe Prudence	Maphela	5	6	5
Nkazimulo	Mthembu	5	0	0
Phila Andrew	Mlindazwe	5	2	2
Qiniso Nneko	Dlamini	5	2	2
Yurisha	Govender	5	0	0
Taihael	Sindraj	4	2	3
Arkaj	Maharaj	3	3	5
Nikesha	Chetty	3	2	2
Randhir	Rawatlal	3	0	0

Showing 31 to 40 of 56 entries Previous 1 2 3 4 5 6 Next

Creating automated questions

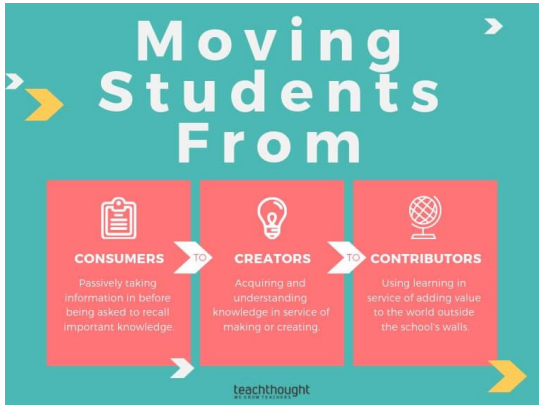
- https://modernscholarship.org/PublonPress

❖ Integration with student perfoprmance
❖ Automated testing, stu self-eval
❖ General editor for content gen
❖ Newer versions even easier to use

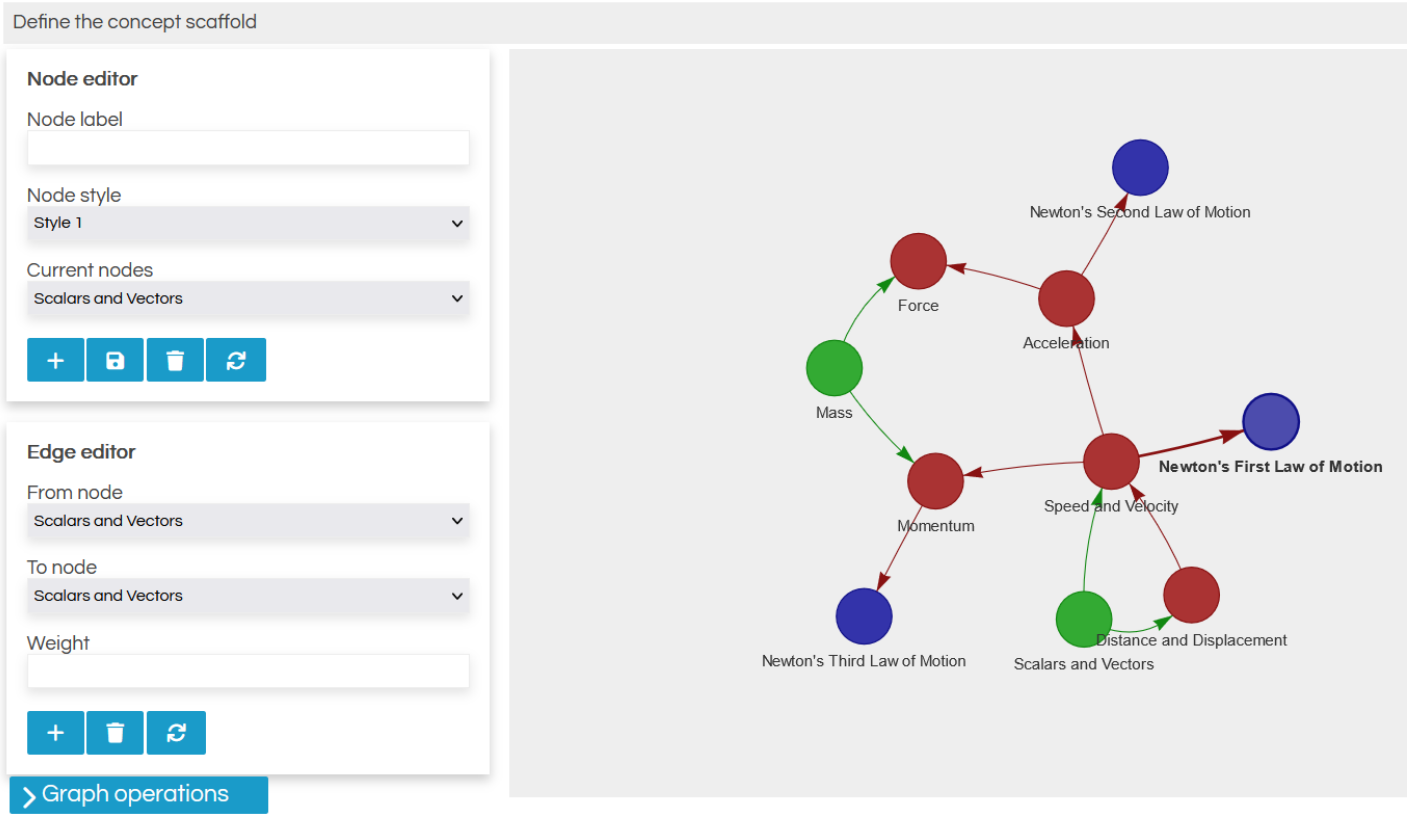


Student as creators

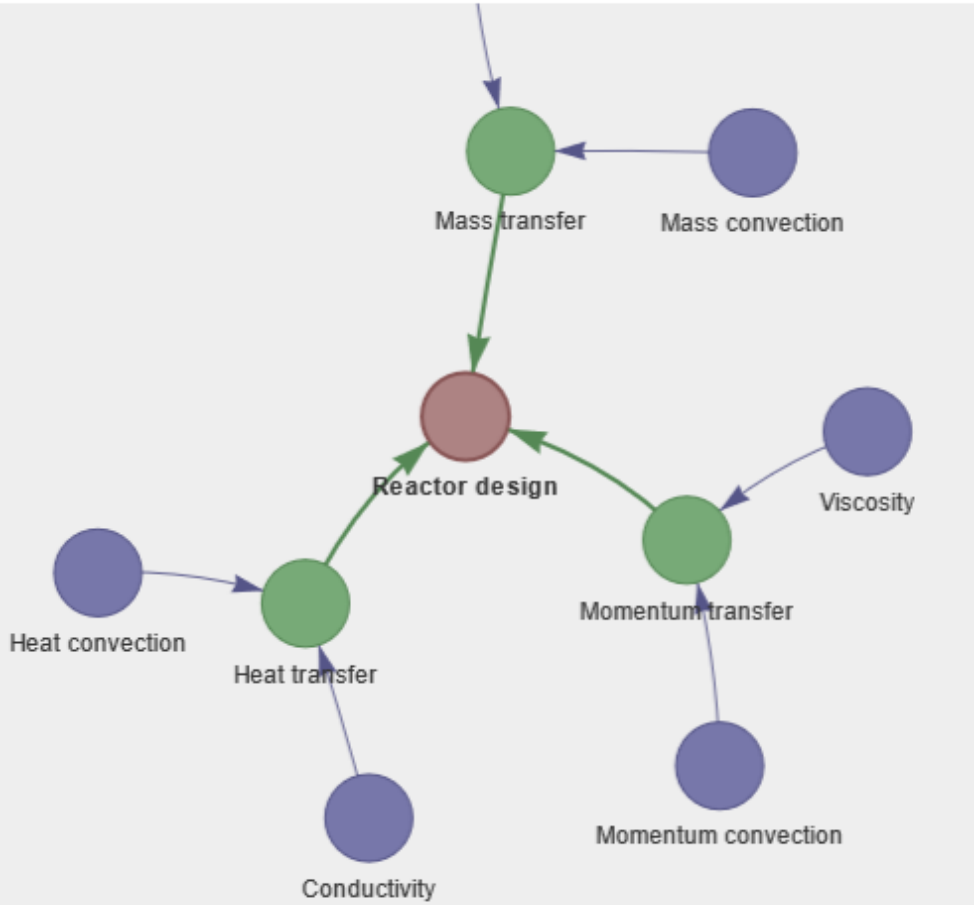
- Original – release editor for tutor creation support, co-lecturer
- Content creation progressing
- Instructional Design
- Students as creators
- Open Education Resources
- National resource

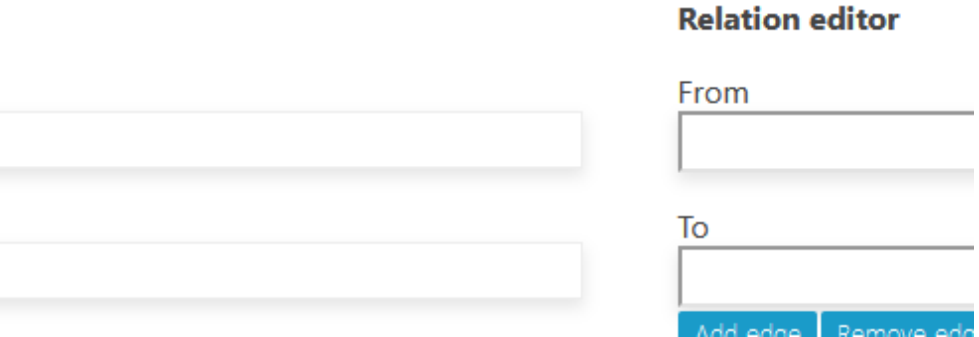


Creating a Concept scaffold



- Concepts as nodes, edges as concept relationships, fundamental to applied
- Application to teaching – identify revision content, understand relevance
- See cohesive curriculum content, break silos (or at least relate them)
- Graph processing algorithms – fundamental to applied “distance” (edge weights)



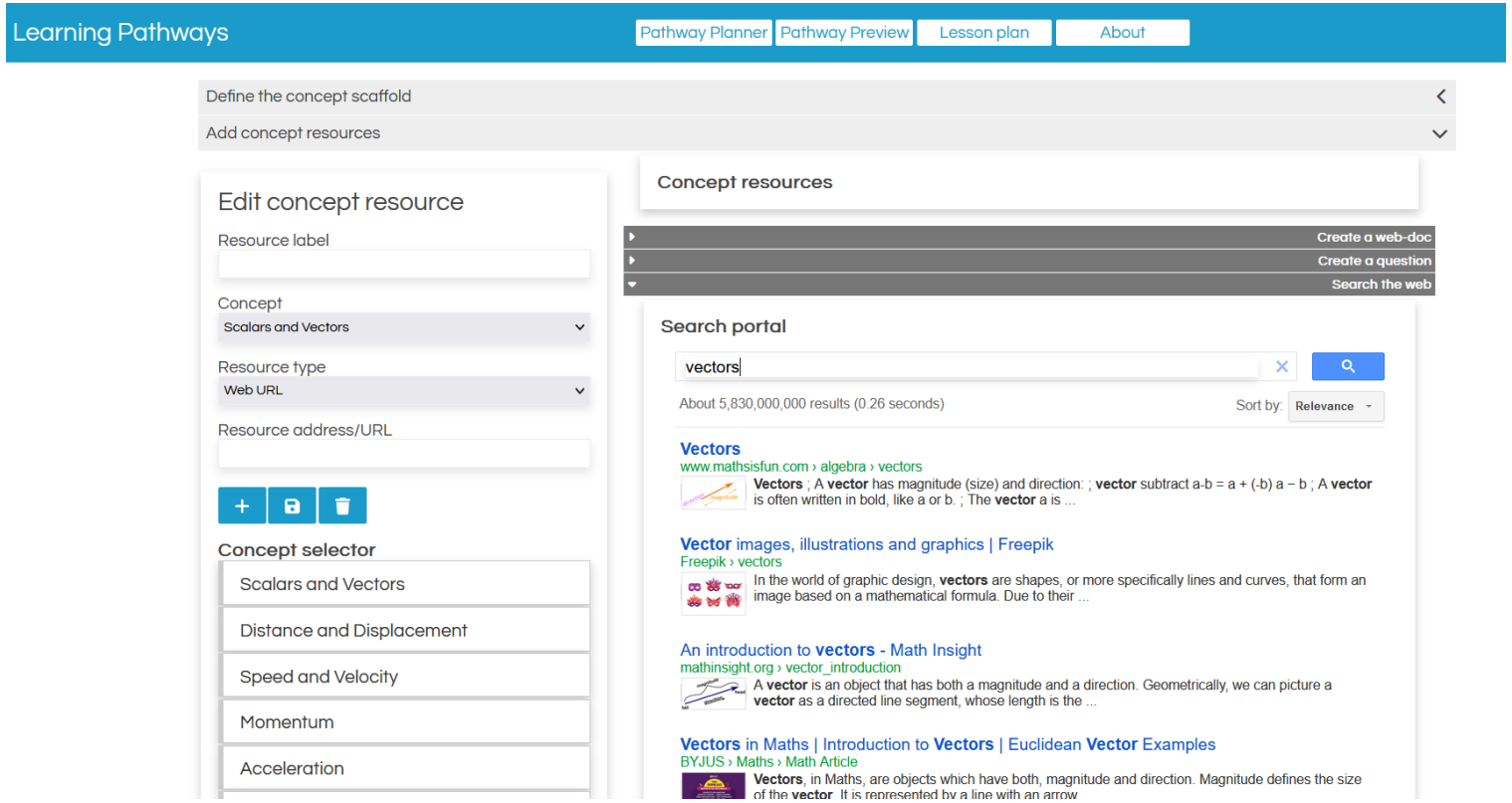


Identifying knowledge gaps

- During self-evaluation, system guides students to concept(s) with lower understanding
- Directs to T&L content
- If high numbers, alert lecturer for revision
- Lecturer can use editor
- Need be done once only – same map will apply; can be centralised

Attaching concept resources

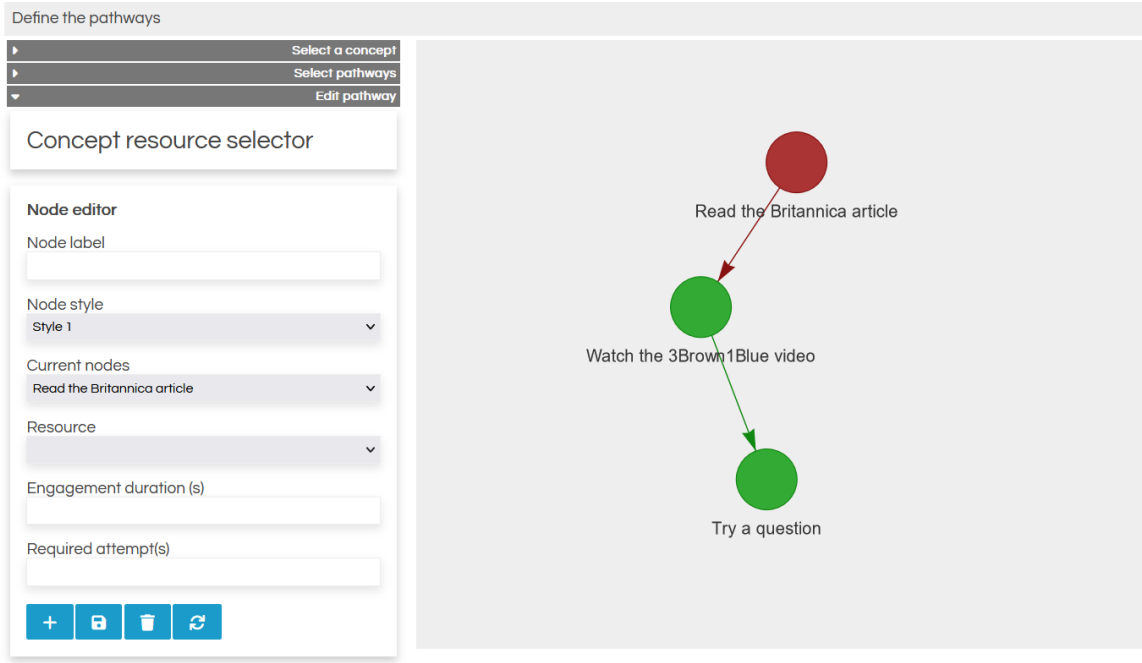
- To each concept / scaffold node, may attach learning content
  - Automated questions
  - Web-resources
  - Publons
- Lecturer and student contributions



Creating Learning pathways

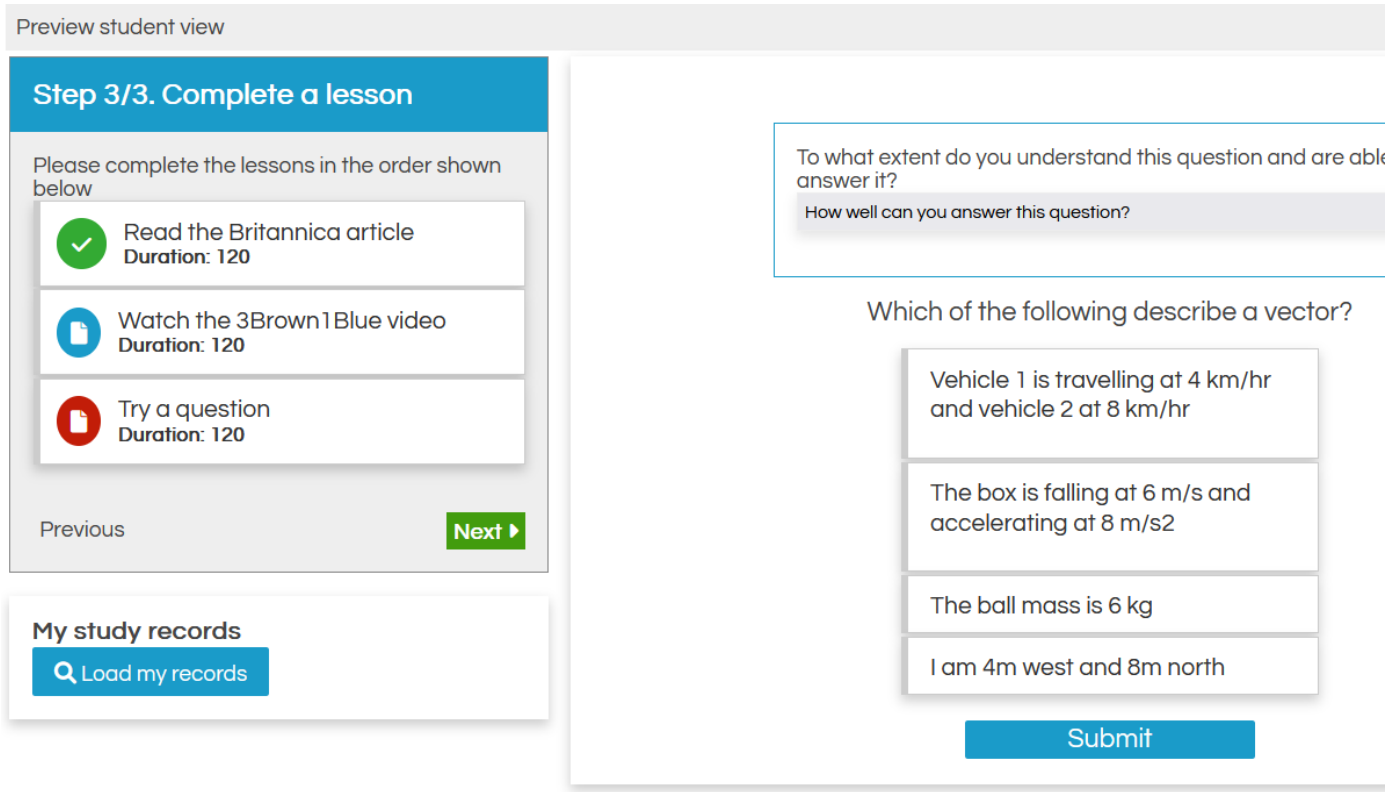
- slurry of learning resources
- organize within-concept path of learning engagement of content
- multiple pathways exist
  - differences in learning style (visual, etc)
  - language
  - visual interpretation
  - pace of learning (for time-sensitive content e.g. video)
- borrow concept from concept scaffolding (and the method)

- - multiple conceptual pathways
  - Relates to the way the material is structured
  - Usually assume one concept map
- - multiple representational pathways
  - Relates to the way the material is presented



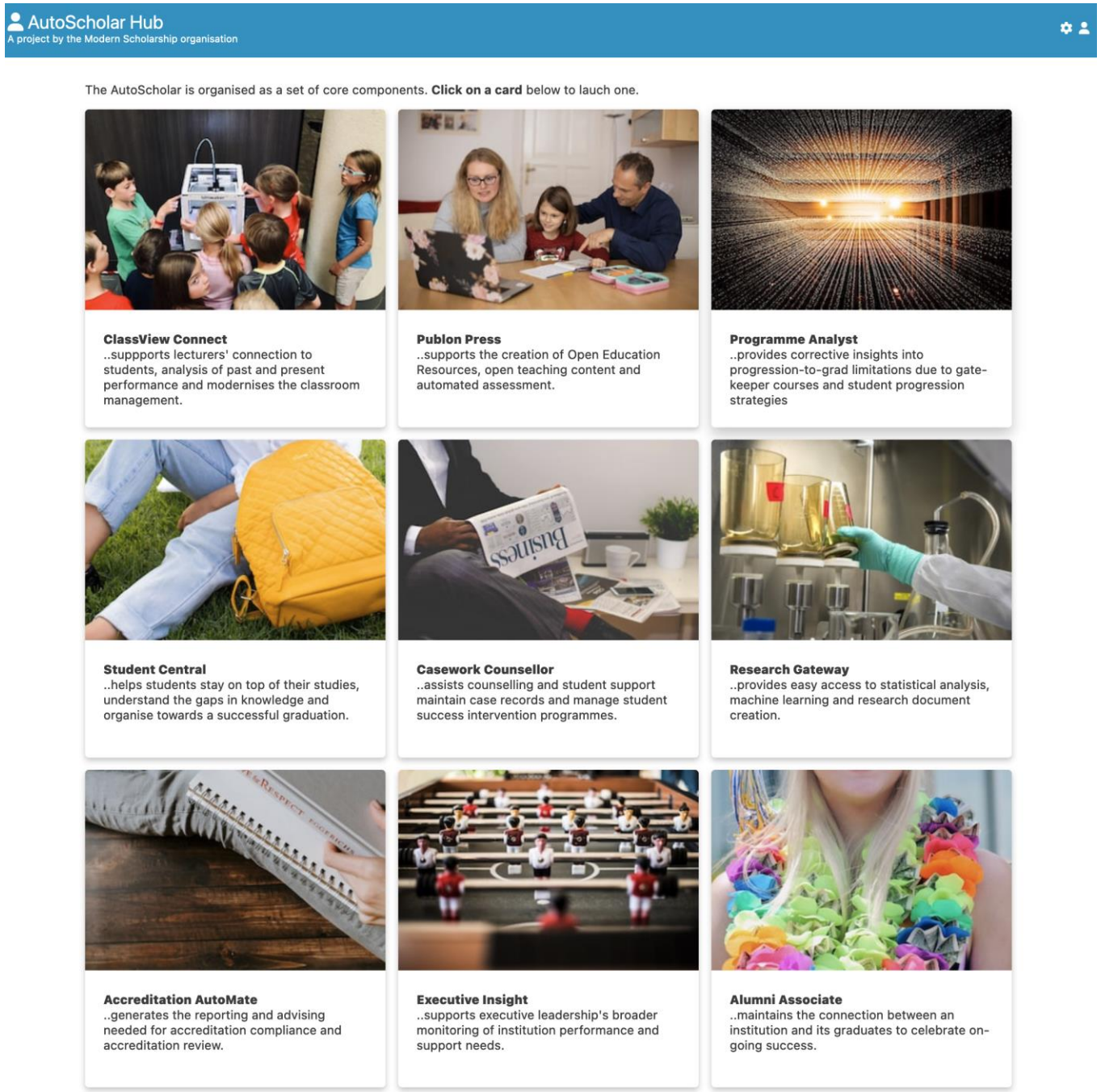
Engage a learning pathway

- Student presented with a flat list of learning actions
- Can auto-test level
- Student may also indicate level of completion
- Checklist builds to gamify progression (careful – keep honesty in self-eval)
- Each concept defines multiple learning pathways



Perspective shift

- Return to largest surface area – Teacher-student interface. Do teachers and students “see” it? Expect large improvements 25% +
- Modern Teaching methods; students do appreciate and engage
- Instructional Design to accelerate
- Some sense of So What? ..for DA
- Data analytics to guide prioritizing content development (by lecturers) and content engagement (by students)
- UKZN – used in pockets by a few groups; building cred through ASAF. Student are responsive where in use
- DUT – excellent training programmes. Staff daily accesses 800-5000



Suggested Data Analytics + T&L operationalised

Use of data analytics to identify programmes, courses, students at risk

Programmes and courses at risk – require pathways definition (KPIs)

Students at risk – require pathway engagement (prog rules)

Toward a pathway engagement, student uses meta question self-diagnosis to identify concept-knowledge-gaps

Undertake pathway until competence and filling of knowledge gap

Proposed collaborations, services

Open Learning Resources organised in Learning Pathways

- Training in content creation, embedding in LP frameworks
- National learning content repository
- Instructional Design capacity at National level

Data Analytics and Machine Learning capacity

- Coursework development with Saide/Ashton
- Provision of AutoScholar AIRTime
- Create & deploy models without code

Modern Scholarship academic programme

- New methods of creating teaching content
- Effective use of Data Analytics & Machine Learning
- New teaching methods: flipped classroom, students as co-creators