



From data to decisions

Analytics as a strategic asset
in higher education

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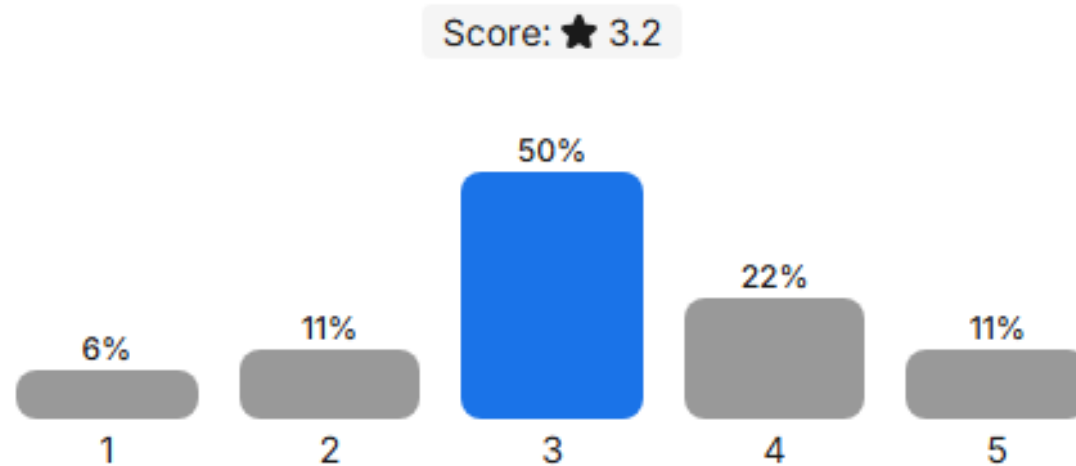
Algebra Bernays University, 2026.

**If you had to predict
which of your
current first-year students
will drop out ...**

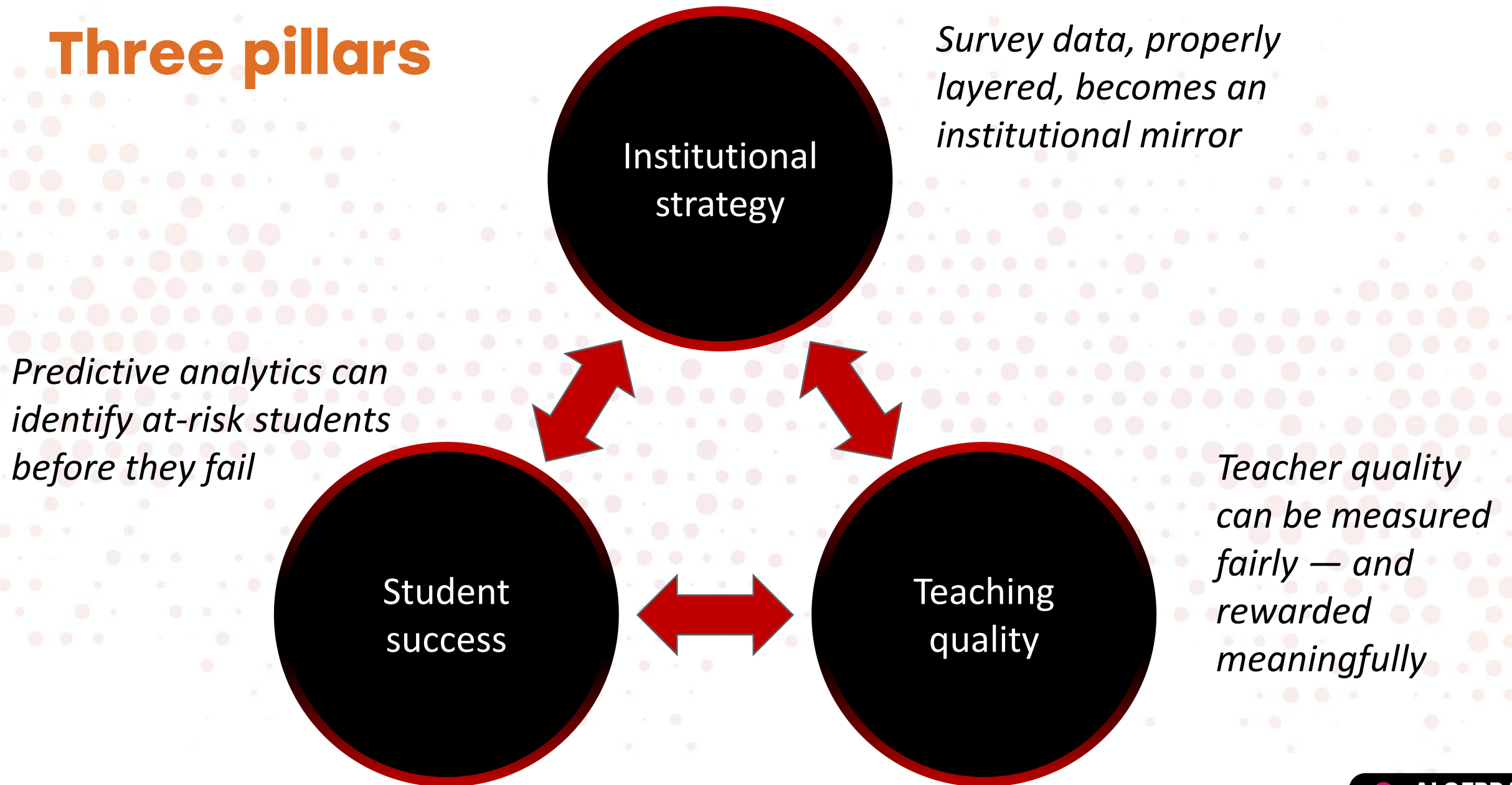
... how confident would you be?



On a scale 1–5: how data-driven is your institution's decision-making today?

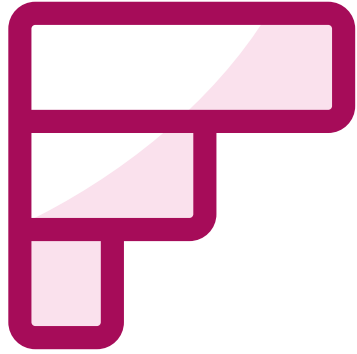


Three pillars

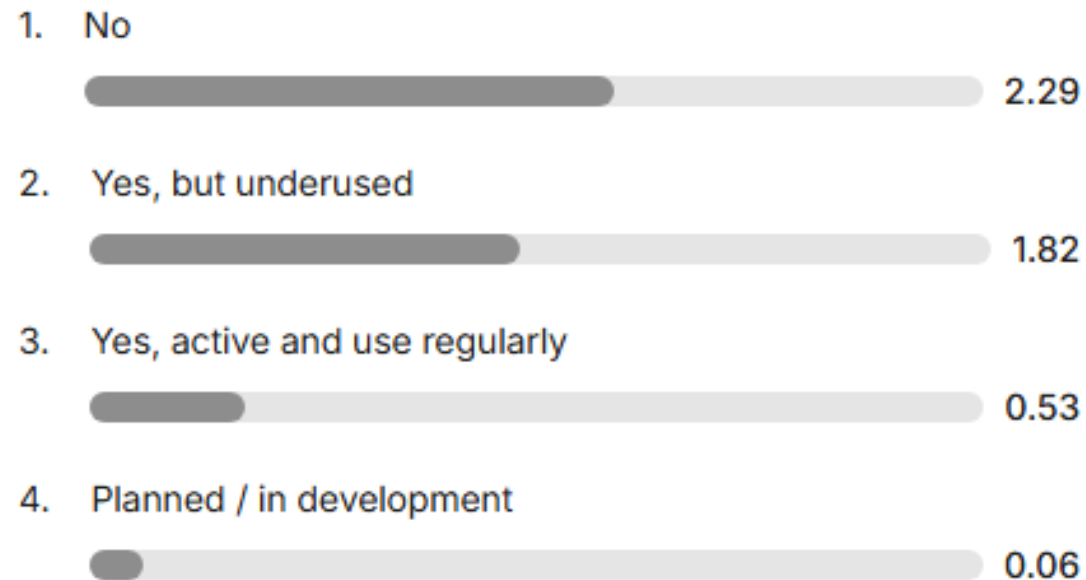


Pillar 1

Student success analytics



Does your institution use any early-warning system to detect students who are at risk of dropping out?



Dropout prevention – early warning system

Example case: „There is a first-year student. Three failed exams in semester one. Login frequency dropped 60% in week eight. First-generation student, no prior flag.”

~ 70%

*of dropout decisions are predictable
6–8 weeks before the student leaves.*

RISK SCORE SIGNALS

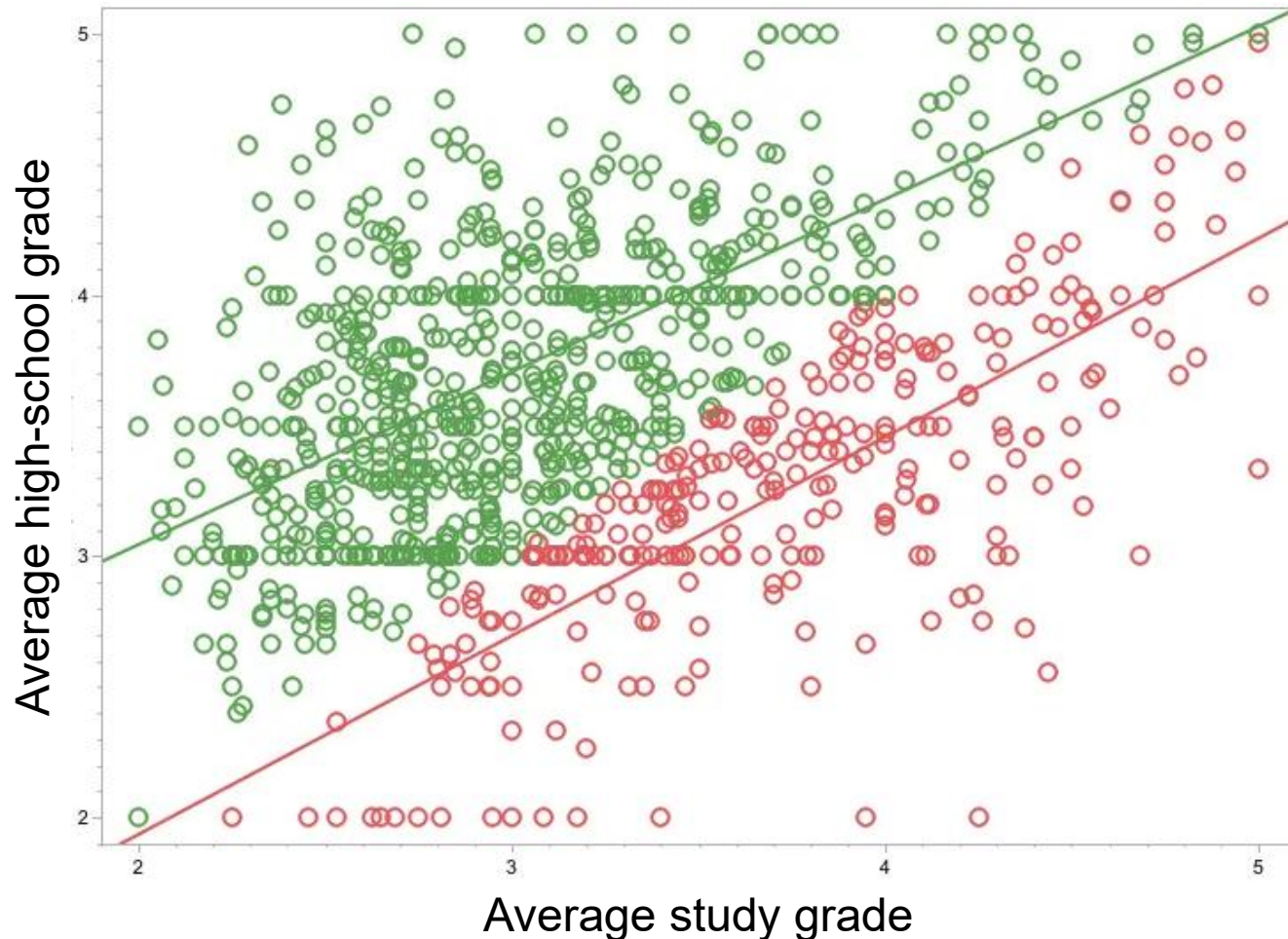
- Failed exams & courses
- Portal/LMS login frequency drop
- Grade trajectory (declining)
- No advisor contact in N weeks

Without dropout prevention system, nobody noticed until the dropout form arrived.

With the system, an advisor was notified in week nine.

Student success

Do high school grades actually predict university success?
...or we still use them as the primary criterion?



WHAT THIS ENABLES

- Programme-specific admission weight calibration
- Early identification: 'high-school stars who struggle'
- Spot late bloomers missed by raw entry scores

Student success

Student statistics is useful...

Preostalo is.	Prosječna ocjena	Prisutnost na pred./vj.	Broj položenih kolegija
10	3,33	36% / 48%	3
10	3,33	45% / 54%	3
9	3,75	49% / 55%	4
9	2,25	33% / 40%	4
9	3,75	46% / 52%	4
9	3,00	41% / 44%	4
9	3,50	39% / 50%	4
9	2,75	43% / 48%	4
9	3,00	41% / 50%	4
8	4,00	52% / 52%	5
8	3,00	55% / 57%	5
7	2,83	42% / 53%	6
6	4,43	46% / 51%	7
6	3,57	52% / 54%	7
6	4,71	65% / 62%	7
6	3,43	35% / 38%	7
6	3,86	67% / 67%	7
6	4,57	62% / 63%	7
6	4,00	71% / 67%	7
6	4,29	55% / 55%	7
6	3,86	48% / 54%	7
6	4,86	71% / 68%	7
6	3,86	49% / 54%	7

Students by passed courses

Preostalo ispita	Prosj. ocjena	Prisutnost na pred./vj.	Broj položenih kolegija
7	2,83	42% / 53%	6
2	2,91	9% / 14%	11
9	3,00	41% / 50%	4
9	3,00	41% / 44%	4
8	3,00	55% / 57%	5
12	3,00	56% / 57%	
10	3,33	45% / 54%	3
10	3,33	36% / 48%	3
6	3,43	35% / 38%	7
9	3,50	39% / 50%	4
11	3,50	38% / 42%	2
6	3,57	52% / 54%	7
9	3,75	46% / 52%	4
9	3,75	49% / 55%	4
6	3,86	49% / 54%	7
6	3,86	48% / 54%	7
6	3,86	67% / 67%	7
6	3,86	67% / 67%	7
6	4,00	71% / 67%	7
12	4,00	48% / 51%	
8	4,00	52% / 52%	5
6	4,29	55% / 55%	7
6	4,43	46% / 51%	7
6	4,57	62% / 63%	7

Students by AVG grade

Preostalo ispita	Prosječna ocjena	Prisutnost na pred./vj.	Broj položenih kolegija
11	3,50	38% / 42%	2
9	3,50	39% / 50%	4
9	3,00	41% / 44%	4
9	3,00	41% / 50%	4
7	2,83	42% / 53%	6
9	2,75	43% / 48%	4
10	3,33	45% / 54%	3
9	3,75	46% / 52%	4
13	Null	46% / 43%	0
6	4,43	46% / 51%	7
12	4,00	48% / 51%	
6	3,86	48% / 54%	7
9	3,75	49% / 55%	4
6	3,86	49% / 54%	7
8	4,00	52% / 52%	5
6	3,57	52% / 54%	7
8	3,00	55% / 57%	5
6	4,29	55% / 55%	7
12	3,00	56% / 57%	
10	2,67	61% / 59%	3
6	4,57	62% / 63%	7
6	4,71	65% / 62%	7
6	3,86	67% / 67%	7

Students by attendance

Student success

Course comparisons can also help...

Prosječna ocjena	Prisutnost na pred./vj.	Status kolegija	Bar chart 1 (Left)	Bar chart 2 (Right)
5.00	86% / 87%		50% (blue), 50% (grey)	50% (green), 50% (grey)
3.00	0% / 0%	Priznat	4% (blue)	4% (yellow)
4.21	95% / 0%		96% (blue)	24% (green), 68% (green)
3.14	70% / 85%		70% (blue), 30% (grey)	15% (green), 35% (yellow), 15% (orange), 30% (grey)
3.17	0% / 0%		100% (blue)	17% (green), 17% (yellow), 33% (orange), 33% (orange)
2.50	82% / 30%	Ponavlja	15% (blue)	8% (yellow), 8% (orange)
4.40	70% / 88%		77% (blue), 8% (grey)	38% (green), 31% (green), 8% (yellow), 8% (grey)
4.00	0% / 0%		100% (blue)	14% (green), 71% (green), 14% (yellow)
3.00	0% / 0%	Priznat	25% (blue)	25% (yellow)
4.17	0% / 0%		75% (blue)	38% (green), 25% (green), 13% (orange)
3.50	0% / 0%	Priznat	25% (blue)	13% (green), 13% (yellow)
3.83	0% / 0%		75% (blue)	25% (green), 25% (green), 13% (yellow), 13% (orange)
4.00	51% / 78%		60% (blue), 40% (grey)	60% (green), 40% (grey)
4.28	79% / 79%		94% (blue), 6% (grey)	39% (green), 42% (green), 13% (yellow), 6% (grey)
2.00	16% / 14%	Ponavlja	3% (blue)	3% (orange)
2.63	68% / 83%		77% (blue), 21% (grey)	8% (green), 33% (yellow), 36% (orange), 21% (grey)
3.71	65% / 81%		70% (blue), 30% (grey)	15% (green), 25% (green), 25% (yellow), 30% (grey)
4.00	0% / 0%	Priznat	4% (blue)	4% (green)
4.88	95% / 0%		96% (blue)	88% (green)

passing rate

distribution of grades

Student success

To identify students which need additional classes...

... we need more than pure statistics.

Izbor kriterija za analizu

Studij
Programsko inženjerstvo - Sveučilišni prijediplomski studij

Naziv kolegija
Digitalna logika

kolegij_sifra
24-000-0106

Student

Grupa
 (All)
 1OP1
 1RP1
 1RP2
 1RP3
 1RP4

Trajanje studija
(All)

Važnost: Bodovi
51

Važnost: Vježbe - dolaznost
75

Važnost: Predavanja - dolaznost
75

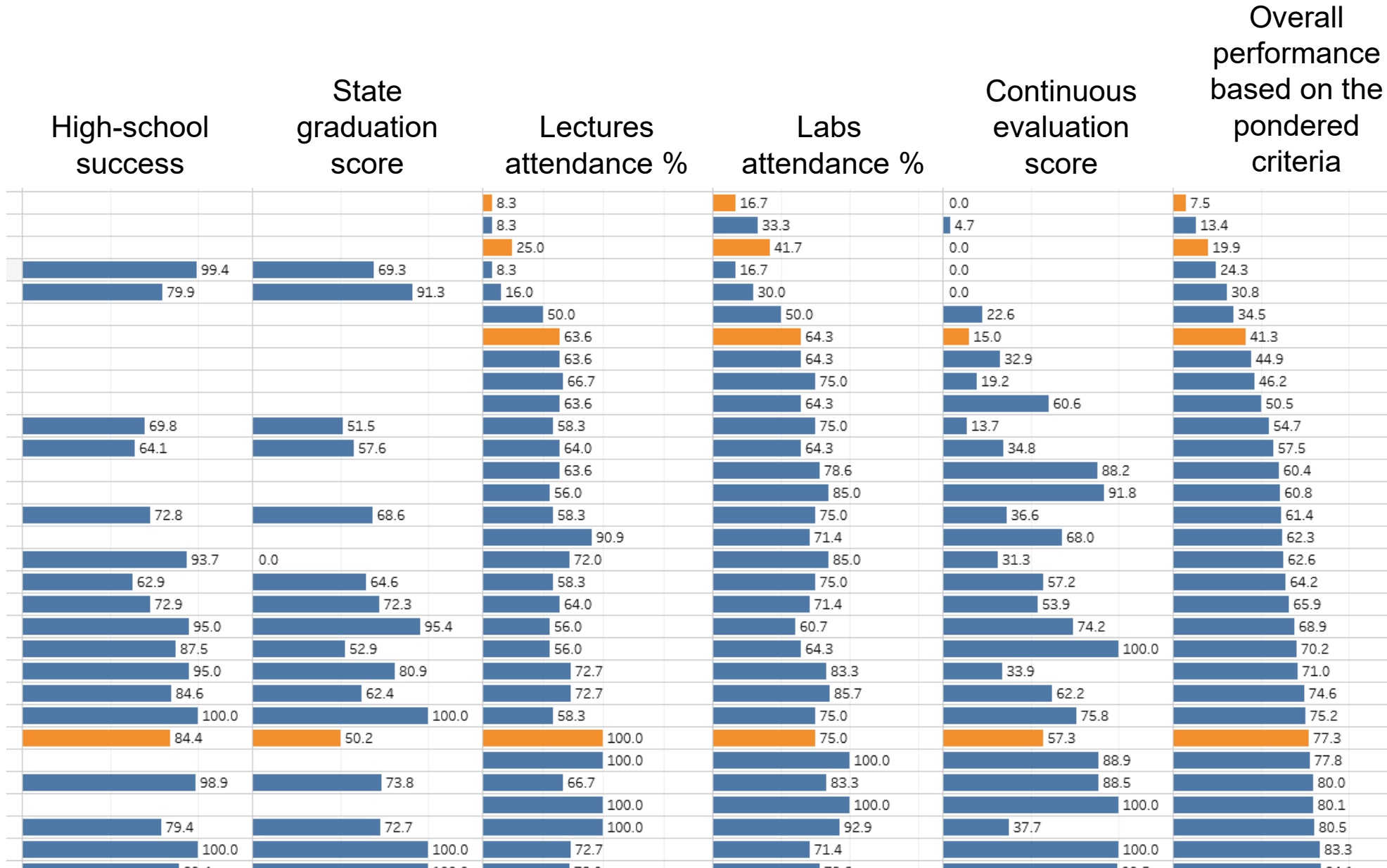
Važnost: Srednja škola - bodovi
25

Važnost: Državna matura - bodovi
25

WHAT THIS ENABLES

- Interactive pondered adjustments of criteria
- Creating and comparing different scenarios
- Early identification of students who need additional classes

How do we know which students need additional classes?



Early recognition of potential problems - before first graded assessments

Osnove poslovnog komuniciranja		Digitalna logika		Programiranje		Uvod u koncepte umjetne inteligencije		Matematika		Karijera		Engleski jezik za IT	
Predavanja	Vježbe	Predavanja	Vježbe	Predavanja	Vježbe	Predavanja	Vježbe	Predavanja	Vježbe	Predavanja	Vježbe	Predavanja	Vježbe
●	●	●	●	▲	▲	✓	✓	●	●	▲	▲	✓	✓
▲	▲	▲	▲	●	●	▲	▲	▲	▲				
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓												
▲	▲	▲	▲	▲	▲			▲	▲	✓	✓		
✓	✓												
		▲	▲	▲	▲			▲	▲	✓	✓	✓	✓
▲	▲	▲	▲	▲	▲			▲	▲				
▲	▲	▲	▲					✓	✓			✓	✓
✓	✓	✓	✓					✓	✓				
✓	✓	✓	✓	✓	✓			✓	✓			✓	✓
▲	▲	▲	▲					▲	▲				
▲	▲	▲	▲	✓	✓			▲	▲				
✓	✓	✓	✓	▲	▲			✓	✓			✓	✓
✓	✓	✓	✓	✓	✓			✓	✓	✓	✓		
▲	▲	✓	✓					✓	✓				
✓	✓			✓	✓			✓	✓				
✓	✓	▲	▲	✓	✓	▲	▲	✓	✓			✓	✓
▲	▲	▲	▲	▲	▲	✓	✓	▲	▲	✓	✓	✓	✓
✓	✓												

Pillar 2

Student survey analytics

Survey analytics – the institutional mirror

Most universities run student satisfaction surveys. Most results are reviewed once a year, noted, and forgotten. Why? Because the data isn't actionable, but averaged to the point of meaninglessness.

*Granularity is the value.
Averaging to institution level destroys signal.*

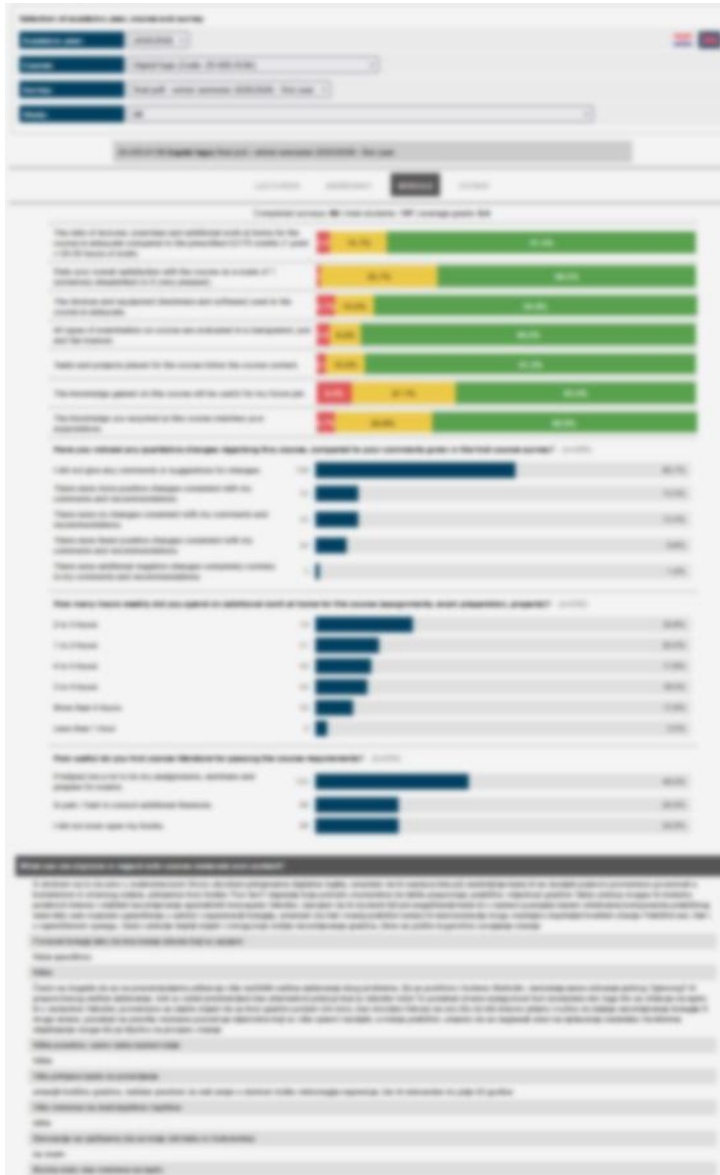
The question that changes everything:

What changes when surveys are conducted at every level – **institution, study, department, course, professor** – and the results are cross-referenced, trended over time, and linked to performance outcomes?"

**Do your institutions share
professor-level results
with professors?**

**Professors should see
their own dashboard
BEFORE any committee does.**

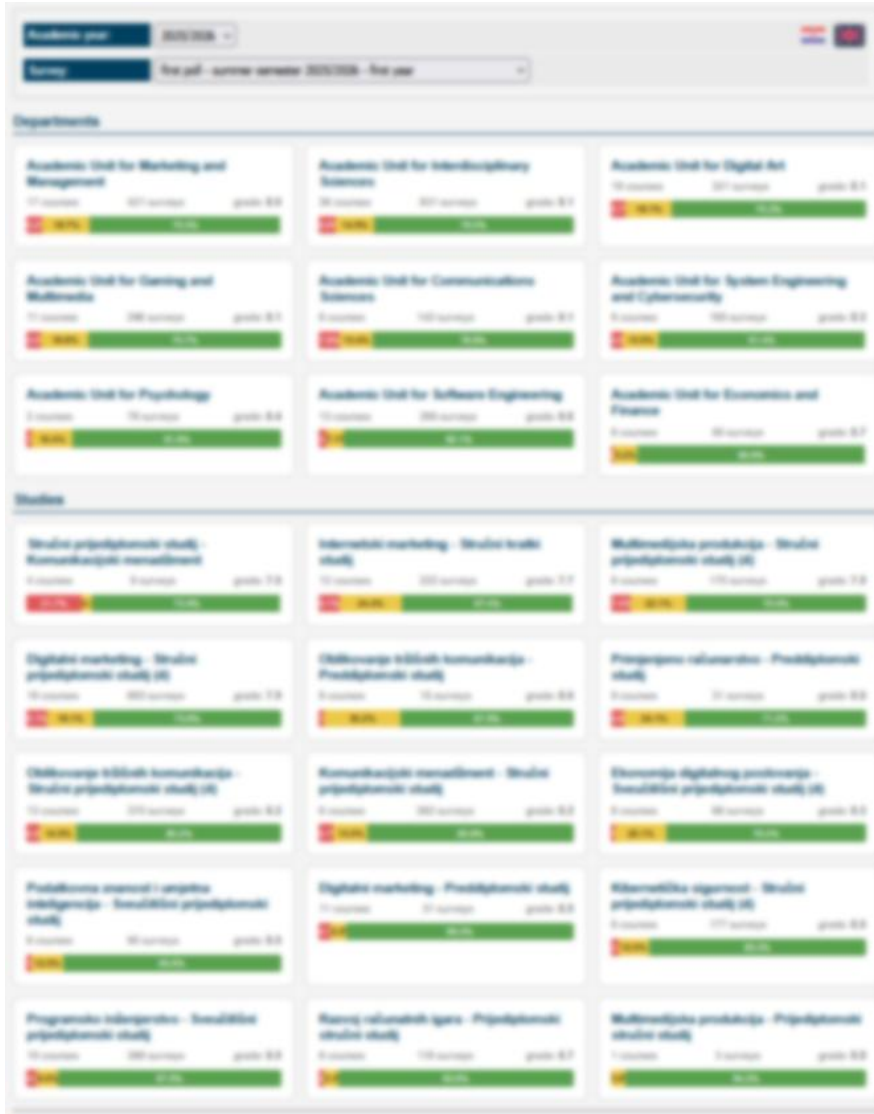
Professors see their own dashboards



Heads of departments and heads of studies additionally see comparative overview of their courses



Members of the quality committee additionally see comparative overview of all studies/departments



LEVEL 1
INSTITUTION

Overall satisfaction trends YoY
Red/yellow/green flags by faculty

LEVEL 2
STUDY / DEPARTMENT

Improving vs. declining departments
Benchmark vs. institutional average
Correlation with dropout rates

LEVEL 3
COURSE

Satisfaction per course
Response rate indicator
Free-text sentiment

LEVEL 4
PROFESSOR & ASSISTANT

Individual teaching scores
(aggregated, anonymous)
Comparison to dept/study median

Survey analytics – the institutional mirror

What a complete survey system must show?

- Not just the score – but what actions were taken in response
- Whether those actions moved the score next cycle
- Improvement plans linked to low scores (action-tracking layer)
- Re-survey results after intervention – closed feedback loop

Survey data has zero value unless it changes something.

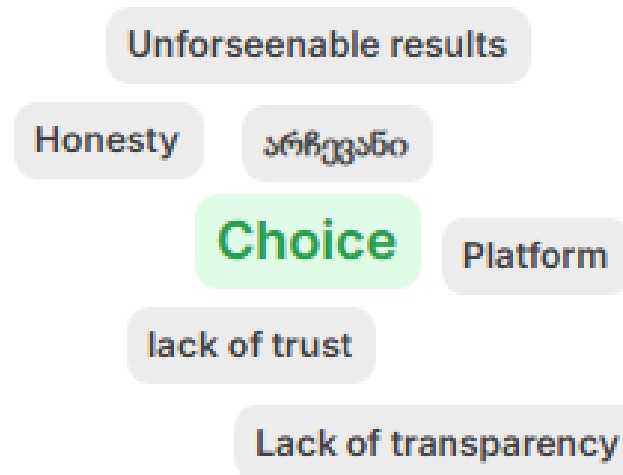
This is not surveillance.

The student sees the same data their advisor sees.

Transparency is a feature, not a risk.



In one word: what is the biggest barrier to acting on survey results at your institution?



Pillar 3

Teaching Quality & Rewarding Analysis

Teaching quality & rewarding analysis

*If you evaluate a professor only by student satisfaction scores,
you will reward **the most popular teachers**,
and not necessarily the best ones.*

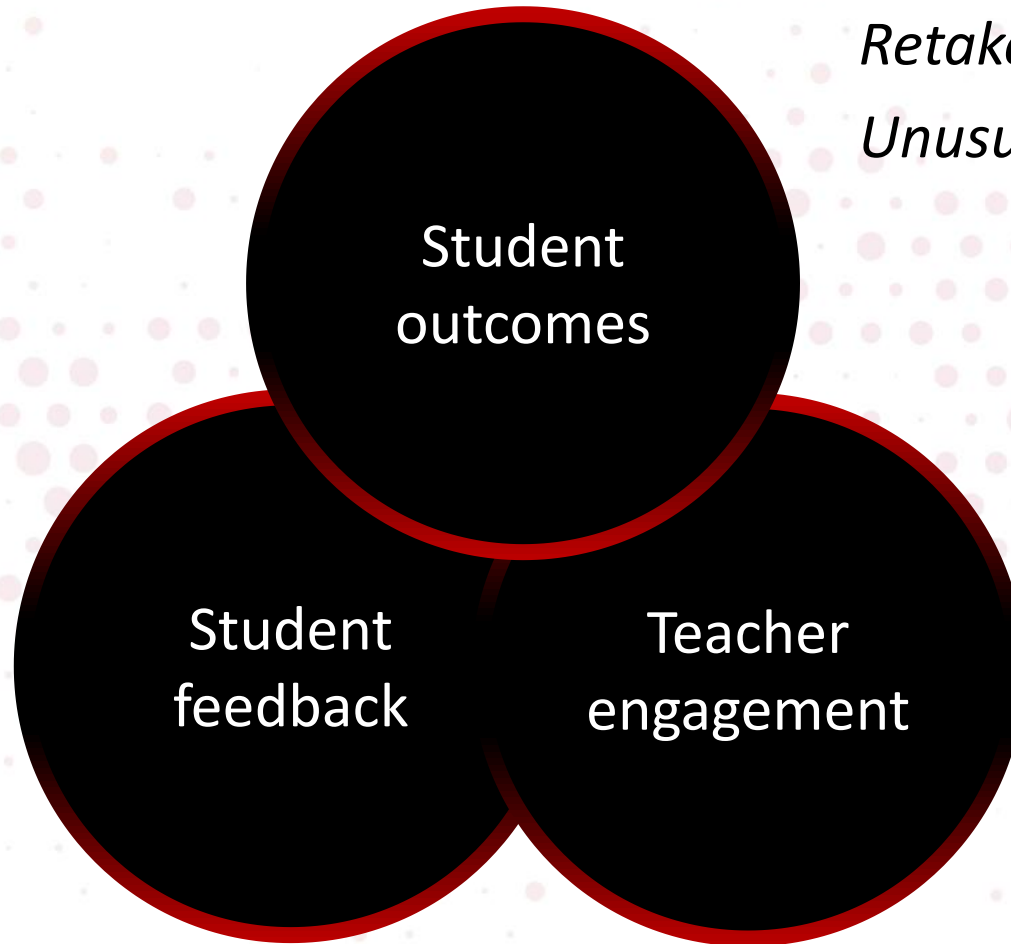
And your best researchers will quickly learn to game the system

Effective teaching quality assessment requires three signal types simultaneously:

1. Student **perception**
2. Professional **engagement**
3. Student **outcomes**

Composite teacher profile

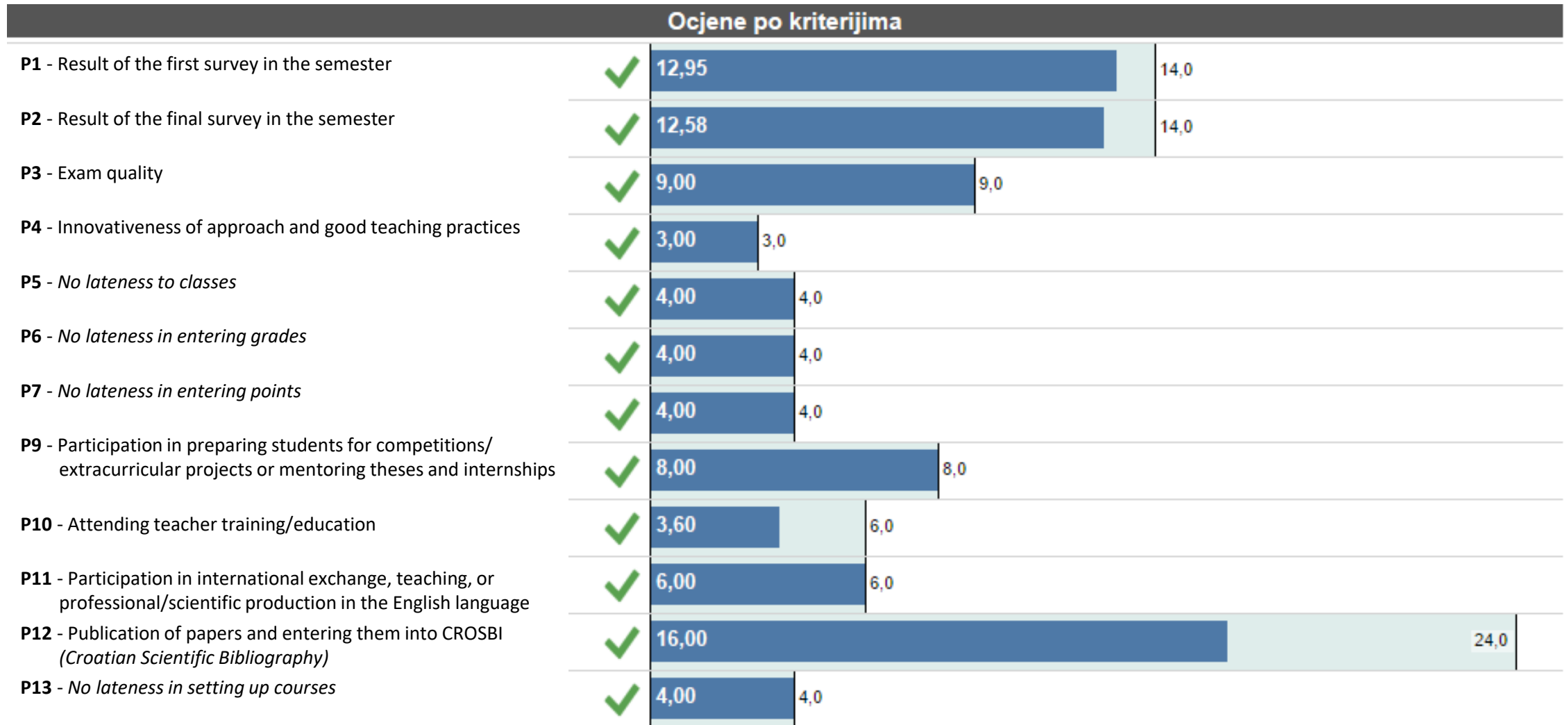
Multi-year satisfaction trend
Clarity / availability / feedback scores
Comparison to departmental median



Pass rate (cohort-adjusted)
Grade distribution shape
Retake success rate
Unusually inflated grading?

Course material update frequency (portal-visible)
Student interaction metrics
Faculty development participation

ALBON criteria for a teacher




ALBON administrative view

0	97,96
0	97,73
0	96,51
0	94,80
0	94,36
0	94,20
0	94,08
0	93,89
0	93,44
0	93,35
0	93,35
0	93,26
0	92,90
0	92,54
0	92,06
0	92,06
0	91,94
0	91,71
0	91,55
0	91,33
0	90,79
0	90,54
0	90,51
0	90,37
0	89,14
0	88,53
0	88,50
0	88,46
0	87,95
0	87,90
0	87,83
0	87,20
0	87,13
0	85,45
0	85,03
0	84,86
0	84,43
0	84,08
0	83,88
0	83,76
0	83,11

0	97,96
0	97,73
0	96,51
0	94,80
0	94,36
0	94,20
0	94,08
0	93,89
0	93,44
0	93,35
0	93,35
0	93,26
0	92,90
0	92,54
0	92,06
0	92,06
0	91,94
0	91,71
0	91,55
0	91,33
0	90,79
0	90,54
0	90,51
0	90,37
0	89,14
0	88,53
0	88,50
0	88,46
0	87,95
0	87,90
0	87,83
0	87,20
0	87,13
0	85,45
0	85,03
0	84,86
0	84,43
0	84,08
0	83,88
0	83,76
0	83,11

Ocjene po kriterijima			
P1 - Rezultat prve ankete u semestru	✓	13,35	14,0
P2 - Rezultat završne ankete u semestru	✓	13,08	14,0
P3 - Kvaliteta ispita	✓	8,00	9,0
P4 - Inovativnost pristupa i dobre prakse u nastavi	✓	3,00	3,0
P5 - Izostanak kašnjenja na nastavu	✓	4,00	4,0
P6 - Izostanak kašnjenja unosa ocjena	✓	4,00	4,0
P7 - Izostanak kašnjenja unosa bodova	✓	2,00	4,0
P9 - Sudjelovanje u pripremi studenata za natjecanja/vannastavne projekte ili mentorstvo završnih i diplomskih radova i prakse	✓	8,00	8,0
P10 - Pohađanje edukacija nastavnika (sudjelovanje + rezultati)	✓	3,60	6,0
P11 - Sudjelovanje u međunarodnoj razmjeni ili održavanje nastava ili stručna/znanstvena produkcija na engleskom jeziku	✓	6,00	6,0
P12 - Objava radova i upis istih u CROSBİ	✓	16,00	24,0
P13 - Izostanak kašnjenja uspostave kolegija na početku semestra	✓	4,00	4,0



ALBON kategorija

- Asistent - Diplomski
- Asistent - Prediplomski
- Predavač - Diplomski
- Predavač - Prediplomski

Akademski godina

- 2022/2023

Semestar

All

Nastavnik/kolegij

All

Rang-lista

1
2
3
4
5

Connecting All Three Pillars – The Data Flow

Student Portal Data

Student Progress Analytics

Early Warning System
→ Advisor Action

Survey Analytics
(course / professor level)

Teaching Quality Dashboard
→ Rewarding Analysis

Institutional Strategy &
Resource Allocation

What do we know about a student who is flagged at risk in week eight and their course load?

Which professor has the highest failure rate in their required course?

What do surveys tell us about that course?

Analytics doesn't answer all of these questions. But it puts them in the same room, at the same time, in front of the right people

Three questions for Monday morning

1

Do we know which of our current students will not graduate, and does anyone have a mandate to act on that knowledge?

2

Are our survey results changing anything, and can we prove it?


3

Are we evaluating teaching quality in a way we would be comfortable explaining it to the teachers themselves?

None of the tools shown today require a complete digital transformation.

They require clarity about what question you're trying to answer, and the will to look at the answer honestly





*The students
who will drop out next
semester are already
enrolled.*

*The professors who need
support are already teaching.*

The data exists.

The question is whether it's working for you, or just sitting there.