

From Viewing to Learning: How Students Experience Video Lectures

Format preferences, study practices, and learning strategies in higher education

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THE QUESTION

**Is preferring a format
a matter of *taste*
or a matter of *skill*?**

BACKGROUND

Video as course infrastructure

- The digital transformation of education, accelerated by COVID-19, has embedded video lectures as an integral component of course design (Probst & Zizka, 2024).
- Universities have widely adopted online and blended models — yet questions remain about how face-to-face, video-based, and hybrid formats align with students' needs (Staneviciene & Žekienė, 2025).
- Format preference is shaped by context, digital literacy, self-regulation, motivational orientation, academic experience, and communicative needs (Baragash & Al-Samarraie, 2018; Thai et al., 2020; Han, 2025).

Almost every University now records. Far less is known about what students do with the recording.

FRAMING

The gap and the aim

GAP

Format preference and study practices are rarely described together, and rarely at the level of what students actually do (Shlomo & Rosenberg-Kima, 2025).

AIM

To explore what students do with video lectures, and to test how format-preference profiles differ in those practices.

RQ1

What do students do when they work with a video lecture?

RQ2

Do format-preference profiles differ in those practices?

01

Method

Sample, measures, and analytic strategy

METHOD

Sample

1,858

valid student responses

2,058 collected in 2025 at a large metropolitan university; 200 removed as incomplete, duplicated, or erroneous.

Characteristic	Category	n	%	Characteristic	Category	n	%
Gender	Female	1,599	86.1	Course	1	542	29.2
	Male	259	13.9		2	543	29.2
Level	Bachelor's	1,455	78.3		3	349	18.8
	Master's	390	21.0		4	316	17.0
	Specialist	13	0.7		5	108	5.8
Funding	State-funded	1,168	62.9	Study mode	Full-time	1,414	76.1
	Fee-paying	536	28.8		Part-time (evening)	270	14.5
	Federal budget	153	8.2		Distance	174	9.4

Note. Percentages are of the total valid sample (N = 1,858). Eight institutes represented; largest: Institute of Psychology and Comprehensive Rehabilitation (28.1%).

Measures

16

items → format profiles

Format preference

Cognitive, methodical and social evaluation of video vs. face-to-face delivery

Better in video / Better face-to-face / Equally good / Equally poor

34

items → 7 scales

Study practices

Motivation · Organisation · Material engagement · Technical practices · Instructor contact · Peer contact · Working conditions

4-point frequency scale (0 = never ... 3 = always). Analysed at item level.

METHOD

Analytic strategy

- 01 Descriptives** Frequency distribution of all 34 practice items across the whole sample
- 02 Cluster analysis** Hierarchical, Ward's method, χ^2 distance, on the format-preference items only → four-cluster solution
- 03 Group comparisons** One-way ANOVA on every practice item; Welch and Brown-Forsythe reported, as Levene's test was significant throughout
- 04 Post hoc** Tamhane's T2, which does not assume equal variances; η^2 reported per item

02

Results

What students do, and where the profiles part company

What students do (and don't do)?

All 34 practice items ranked by frequency, N = 1,858

SETTLED

% often or always

- 82%** Watch on their own device
- 79%** Have comfortable conditions
- 77%** Understand why they are watching
- 75%** Screenshot key slides and formulas
- 72%** Pause the video to take notes
- 71%** Link the topic to their profession

PATCHY

% often or always

- 48%** Mute notifications while watching
- 46%** Discuss a lecture with coursemates
- 45%** Feel the lecturer addresses them
- 44%** Ask the lecturer a question
- 43%** Set a goal or a time limit
- 39%** Explain an idea to another student

ABSENT

% never, not once

- 49%** Use AI to summarise a lecture
- 47%** Watch or discuss in a small group
- 46%** Turn on subtitles or a transcript
- 39%** Use shared documents for joint notes
- 34%** Mark hard passages with timecodes
- 29%** Schedule viewing or set reminders

Settled practices are solitary and physical. Absent ones are collaborative or tool-based. Between them sits self-regulation.

Students have optimised video as a solo activity. Planning and collaboration remain largely untouched.

Four format-preference profiles

Hierarchical cluster analysis · Ward's method · χ^2 metric · N = 1,858

271

14.6% of sample

Video supporters

Favour video on cognitive, methodical and social items alike (62–82%) — the only group preferring video for interaction.

707

38.1% of sample

Flexible F2F

Rate the formats equally for understanding and structure; want the room for discussion and practice.

158

8.5% of sample

Universalists

Answer “equally good” to almost everything (83–99%), with no clear leaning either way.

722

38.9% of sample

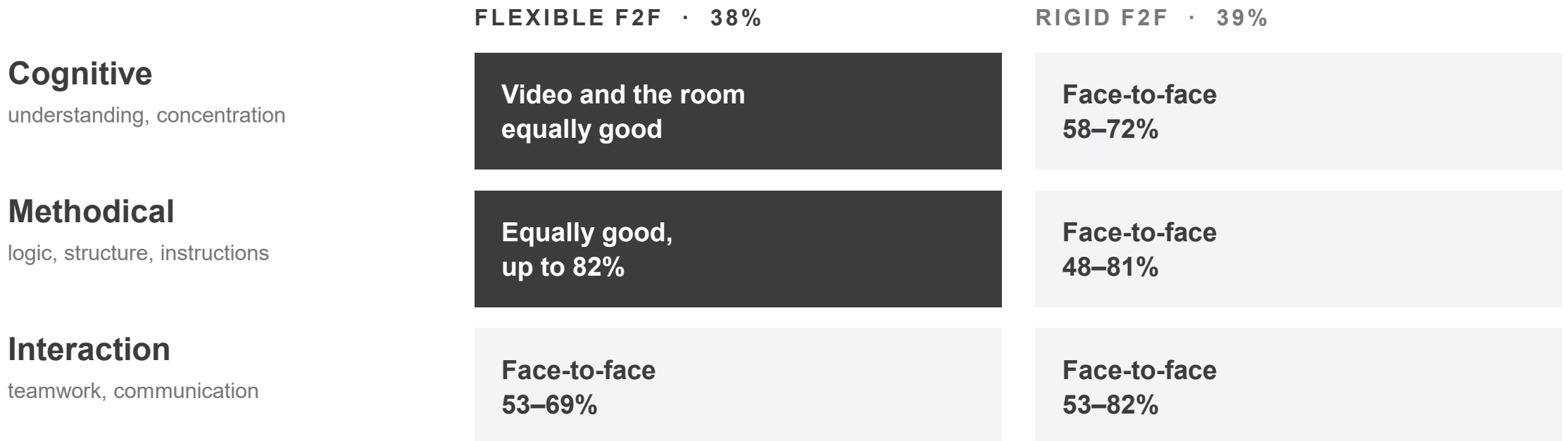
Rigid F2F

Prefer face-to-face on every dimension (58–82%). The largest group.

77% favour face-to-face in some form, and that majority contains two behaviourally distinct groups.

The two face-to-face groups

Percentage choosing each format, by domain of the learning experience



On practice, flexible supporters exceed rigid supporters on all nine items that follow (mean gap 0.23 of a scale point).

Flexible supporters have already accepted video for thinking. What they still want the room for is each other.

Knowing why you are watching

Motivation items, means on a 0–3 scale, by profile

Practice item	η^2	Video	Flexible	Universalists	Rigid
I reflect on how the material applies in life	.055	2.31	1.91	1.91	1.64
I understand why I am watching	.051	2.58	2.28	2.06	1.93
I link the topic to my future profession	.047	2.39	2.02	1.96	1.77

All items $p < .001$ (Welch and Brown-Forsythe confirmed).

- “I understand why I am watching” is the single highest-scoring practice in the whole instrument (77% often or always), and it still separates the profiles.
- Rigid supporters are the least likely to attach a recording to a profession, a plan, or anything outside the course itself.

Motivation here means purpose: whether the lecture is understood to be going somewhere.

During, and afterwards

Engagement with the material, means on a 0–3 scale, by profile

WHILE WATCHING gaps 0.41 – 0.65

Practice item	η^2	Video	Flexible	Universalists	Rigid
I pause the video to take notes	.037	2.37	2.02	1.85	1.80
I pause to clarify something elsewhere	.046	2.22	1.72	1.68	1.57
I look for other sources on the topic	.020	2.00	1.68	1.72	1.59

AFTERWARDS gaps 0.62 – 0.86

Practice item	η^2	Video	Flexible	Universalists	Rigid
I return to a lecture when a related topic appears	.077	2.19	1.61	1.73	1.33
I note which topics deserve deeper study	.069	2.25	1.75	1.76	1.46
I listen again as a podcast to revise	.066	2.13	1.50	1.66	1.32

Profiles differ modestly in how students watch, and sharply in whether they ever come back.

Advantages of technology

Technical practice items, means on a 0–3 scale, by profile

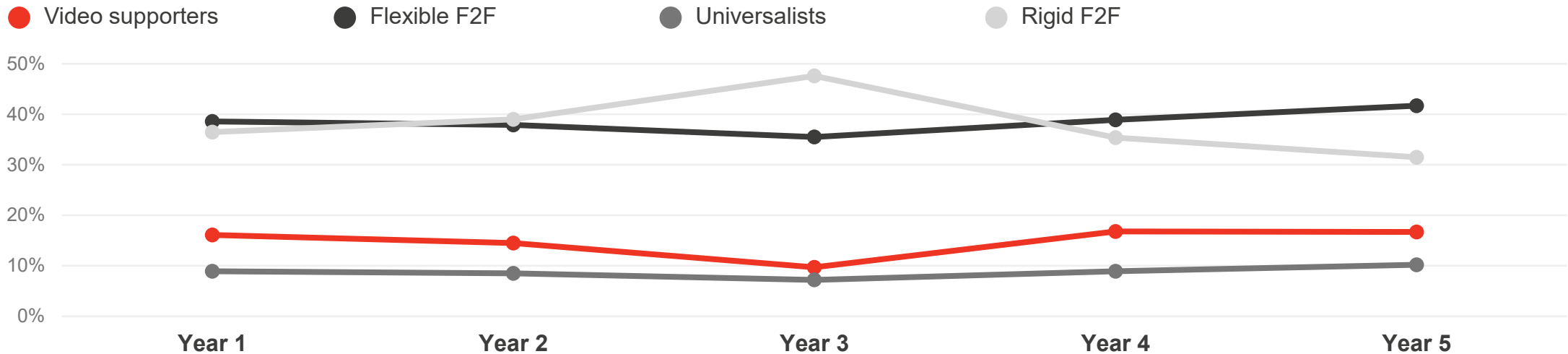
Practice item	η^2	Video	Flexible	Universalists	Rigid
I screenshot key slides, diagrams, formulas	.042	2.44	2.15	1.91	1.85
I watch at increased speed	.016	2.15	1.82	1.61	1.86
I use AI to extend the lecture material	.017	1.43	1.08	1.30	1.06
I turn on subtitles or a transcript	.022	1.34	0.88	1.13	0.93
I use AI to summarise a lecture	.015	1.10	0.80	1.20	0.87

- Smallest effects in the study ($\eta^2 = .015\text{--}.042$). On four of the five items the two face-to-face groups do not differ at all ($p = .74$ to $.99$).
- On speed, subtitles and AI summaries the rigid group sits at or above the flexible group — the ordering that holds everywhere else inverts.
- Screenshots and speed are near-universal (75%, 66%); AI and captioning sit at the floor for everyone, 49% never.

Only video supporters stay distinct here.

Does openness grow with time?

Percentage of each year cohort falling into each profile



$n = 542 \cdot 543 \cdot 349 \cdot 316 \cdot 108$ across years 1 to 5. Also tested: gender $\chi^2(3) = 8.62, p = .035$ · institute $\chi^2(18) = 42.53, p < .001$ · funding $\chi^2(3) = 3.49, p = .322$ (n.s.)

ACROSS YEARS

$\chi^2(12) = 20.08, p = .066$. Test for linear trend $p = .784$ — the lines do not move.

BACHELOR'S → MASTER'S

$\chi^2(3) = 27.46, p < .001$. Rigid 40.8 → 30.8%, Video 13.6 → 18.7%, Universalists 7.1 → 13.3%

Openness shifts at the move between degrees, not across the years inside one.

03

What is next?

Interpretation, implications, and limits

DISCUSSION

What did we find?

- Students have solved the individual resources layer of video study — device, conditions, notes, screenshots — and left the planning and collaborative layer almost untouched.
- Purpose separates the profiles. The gap holds on every motivation item: whether the recording is understood to connect to a plan, a profession, a reason.
- Profiles differ modestly in what students do while watching (gaps 0.41–0.65) and much more in whether they return afterwards (0.62–0.86).
- Technique separates them least, and there the ordering breaks: on four of five technical items the two face-to-face groups are statistically indistinguishable.
- Rigid face-to-face preference works like external scaffolding. The lecture hall fixes the time, place, pace and attention; hand these students a file and that support disappears.
- Openness does not accumulate year by year. The distribution is flat across five years of undergraduate study (trend $p = .784$) and moves only at the step up to a master's degree.

What universities can change

01 Teach students to use a recording

34% never mark difficult passages, 29% never schedule viewing. Guided viewing, checkpoints and worked examples target exactly these gaps; publishing the file does not.

02 Build the connection to the course

The items that separate the profiles are all about linking a lecture to seminars, to other courses, to later revision. Assign that link rather than assuming it.

03 Create the collective layer

47% have never watched or discussed a lecture in a group, 39% have never used a shared document. Nothing in the current setup asks them to.

04 Design for the second visit

The largest gaps in the study concern returning to a lecture rather than watching it. Prompts to revisit, links across courses and revision tasks target that gap directly.

What this design cannot tell us

- Single institution and a cross-sectional design: the ordering is an association, and the direction of travel between preference and practice remains open.
- All measures are self-reported; no link to attainment data, so “practice” is reported behaviour rather than observed learning.
- The sample is predominantly female (86.1%) and drawn from education and psychology programmes, which constrains generalisation.
- Cluster solutions are sample-dependent; replication in other institutional contexts is needed.

Back to the question

What separates students

is purpose and persistence.

Purpose

Video supporters connect a lecture to a plan or a profession. Rigid supporters do so least of all.

Persistence

The sharpest gaps concern whether students ever come back to a recording.

Technique

Screenshots and speed are universal, AI and captioning unused. Here the profiles look alike.

Thank you

Questions welcome

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Let's connect!



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