Supplemental Appendix

The Use of Artificial Intelligence (AI) in Undergraduate Economics Courses
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ONLINE APPENDICES

Online Appendix A: Survey Questions about Use of AI Tools

Online Appendix B: AI Prompts for Generating Open-Ended Response Themes

Online Appendix C: Survey Results: Tables and Figures

Online Appendix A: Survey Questions about Use of AI Tools

The following questions were added to the seventh (2025) administration of the National Quinquennial Survey on Teaching and Assessment Methods in Undergraduate Economics, known as the "Chalk and Talk" Survey.

Instructor Use of AI Tools in Teaching

Likert-scale Question
Which one of the following best describes your use of Artificial Intelligence (AI) tools and products (e.g., ChatGPT) in teaching your **face-to-face** courses? (Please select an answer for each of the courses you teach.)

A. I extensively integrate AI tools and products into my teaching methods.
B. I occasionally incorporate AI tools and products into my teaching methods.
C. I am exploring AI tools and products but have not yet incorporated them into my teaching methods.
D. I have not actively explored using AI tools and products in my teaching methods.
E. I actively avoid using AI tools and products in my teaching methods.

Open-ended Question
Please share the reasoning behind your decisions regarding the use of AI tools and products in teaching your **face-to-face** courses.

Instructor Stance on Student Use of AI Tools

Likert-scale Question
Which one of the following best describes your stance on allowing students to use Artificial Intelligence (AI) tools and products (e.g., Chat GPT) to complete assignments in your **face-to-face** courses? (Please select an answer for each of the courses you teach.)

A. Completely open - Students are encouraged to explore and incorporate AI tools and products extensively without restrictions or guidelines.
B. Moderately open - Students are allowed to use AI tools and products with certain restrictions or guidelines.
C. Neutral - Students are neither encouraged nor discouraged from using AI tools and products; it's left to students' discretion.
D. Moderately restrictive - Students are allowed limited use of AI tools and products, and specific approval or supervision is required.
E. Completely restrictive - Students are not permitted to use AI tools and products to complete assignments.

Open-ended Question
Please share the reasoning behind your stance on allowing students to use AI tools and products to complete assignments in your **face-to-face** courses.

Online Appendix B: AI Prompts for Generating Open-Ended Response Themes

The following prompts were entered into Microsoft Copilot (GPT-5) to develop the themes, percentage share of responses per theme, and representative quotes identified in Table 3.

Initial Prompt for Survey Question about Instructor Use of AI Tools in Teaching

Analyze the dataset of instructor responses about their use of AI tools in teaching economics courses. Categorize all responses into four to six thematic groups, each identified with a single descriptive word. For each theme, compile a list of representative direct quotes from the dataset, preserving the exact wording.

Follow-up Prompt After Authors Selected the Final Themes

Use the entire dataset to categorize each response into the following six themes: Practicality, Promise, Uncertainty, Unfamiliarity, Resistance, and Constraints. Allow for multiple coding; if a quote expresses multiple distinct ideas, assign it to more than one theme. Generate a table listing the response's entry number, exact wording, and assigned theme(s). Also, provide a frequency table that reports both the number of quotes coded under each theme and the number of quotes that were coded into multiple themes.

Initial Prompt for Survey Question about Instructor Stance on Student Use of AI Tools

Analyze the dataset of instructor responses on their stance on student use of AI tools to complete assignments in economics courses. Categorize all responses into four to six thematic groups, each identified with a single descriptive word. For each theme, compile a list of representative direct quotes from the dataset, preserving the exact wording.

Follow-up Prompt After Authors Selected the Final Themes

Use the entire dataset to categorize each response into the following six themes: Usefulness, Guidance, Inevitability, Skepticism, Hesitation, Passivity. Allow for multiple coding; if a quote expresses multiple distinct ideas, assign it to more than one theme. Generate a table listing the response's entry number, exact wording, and assigned theme(s). Also, provide a frequency table that reports both the number of quotes coded under each theme and the number of quotes that were coded into multiple themes.

Online Appendix C: Survey Results: Tables and Figures

TABLE C.1– MEANS (AND STANDARD DEVIATIONS) FOR THE INDEPENDENT VARIABLES

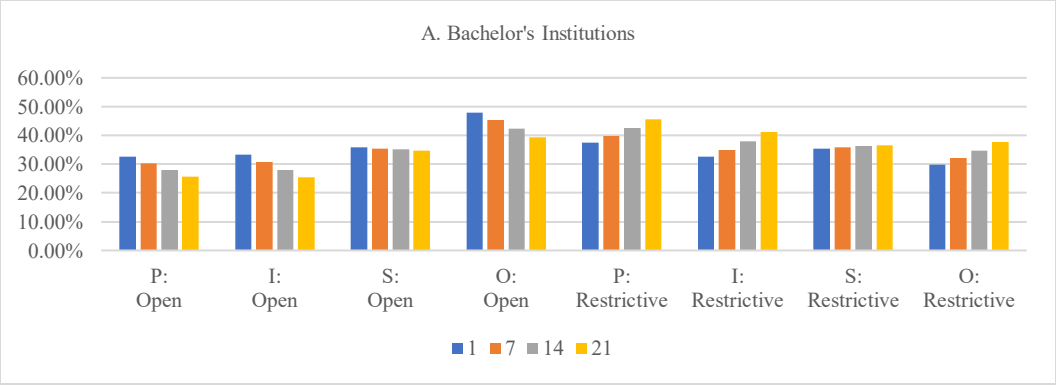
Variable	Principles and Survey	Intermediate Theory	Statistics and Econometrics	Other Upper-Division Field
Female	0.362	0.333	0.311	0.351
	(0.481)	(0.472)	(0.464)	(0.478)
White	0.819	0.802	0.770	0.816
	(0.386)	(0.399)	(0.421)	(0.388)
English 2L	0.195	0.238	0.234	0.213
	(0.387)	(0.427)	(0.424)	(0.410)
Tenure-track	0.741	0.784	0.803	0.810
	(0.439)	(0.412)	(0.398)	(0.393)
Experience	17.231	18.121	16.160	18.067
	(11.781)	(12.224)	(11.628)	(12.537)
Teaching load	6.365	5.978	5.746	5.607
	(2.274)	(2.282)	(2.237)	(2.217)
Class Size	82.816	36.978	32.693	29.549
	(101.469)	(44.268)	(30.272)	(24.339)
Bachelor's	0.238	0.278	0.234	0.250
	(0.426)	(0.449)	(0.424)	(0.433)
N	425	273	244	521

Notes: *Teaching load* is determined based on an instructor's *Tenure-track* status. *Class size* represents the average class size for each course type at an instructor's institution.

TABLE C.2– ORDERED LOGIT RESULTS FOR USE OF AI TOOLS BY INSTITUTIONAL TYPE

	Principles and Survey				**Other Upper-Division Field**			
	Bachelor's		Non-Bachelor's		Bachelor's		Non-Bachelor's	
Variable	Coeff. (SE)	Marginal Effect	Coeff. (SE)	Marginal Effect	Coeff. (SE)	Marginal Effect	Coeff. (SE)	Marginal Effect
Panel A: Instructor Use of AI Tools in Teaching								
Female	0.336	0.052	0.260	0.046	0.333	0.063	0.254	0.054
	(0.414)	(0.066)	(0.232)	(0.042)	(0.357)	(0.069)	(0.208)	(0.046)
English 2L	0.264	0.040	0.551	0.107	0.589	0.118	0.149	0.031
	(0.465)	(0.075)	(0.289)	(0.059)	(0.430)	(0.094)	(0.227)	(0.049)
Tenure-track	0.080	0.011	0.156	0.025	0.579	0.085	0.577	0.102
	(0.952)	(0.127)	(0.294)	(0.046)	(1.058)	(0.131)	(0.379)	(0.061)
Experience	–0.025	–0.003	–0.023	–0.004	–0.013	–0.002	–0.022	–0.005
	(0.021)	(0.003)	(0.011)	(0.002)	(0.015)	(0.003)	(0.009)	(0.002)
Teaching	–0.023	–0.003	0.001	0.0002	0.003	0.0005	0.119	0.024
load	(0.163)	(0.023)	(0.003)	(0.009)	(0.175)	(0.030)	(0.061)	(0.013)
Class Size	0.003	0.0004	0.001	0.0001	0.048	0.008	–0.007	–0.001
	(0.018)	(0.002)	(0.001)	(0.0002)	(0.030)	(0.005)	(0.004)	(0.001)
Pseudo R^2	0.026		0.024		0.025		0.025	
Observations	101		324		130		391	
Panel B: Instructor Stance on Student Use of AI Tools								
Female	–0047	–0.009	–0.281	–0.062	0.123	0.029	–0.344	–0.085
	(0.415)	(0.081)	(0.227)	(0.049)	(0.051)	(0.082)	(0.231)	(0.056)
English 2L	0.363	0.077	–0.137	–0.031	0.582	–0.055	0.017	0.004
	(0.493)	(0.110)	(0.278)	(0.062)	(0.407)	(0.075)	(0.239)	(0.060)
Tenure-track	0.121	0.023	0.183	0.041	–0.835	–0.205	0.102	0.025
	(0.769)	(0.149)	(0.029)	(0.073)	(0.677)	(0.165)	(0.371)	(0.093)
Experience	0.011	0.002	–0.026	–0.006	–0.010	–0.002	–0.020	–0.005
	(0.016)	(0.003)	(0.010)	(0.002)	(0.015)	(0.003)	(0.008)	(0.002)
Teaching	–0.112	–0.022	0.010	0.002	–0.196	–0.045	0.026	0.007
load	(0.134)	(0.026)	(0.060)	(0.417)	(0.143)	(0.033)	(0.064)	(0.016)
Class Size	–0.005	–0.001	0.0004	0.0001	–0.019	–0.004	–0.002	–0.0004
	(0.020)	(0.004)	(0.001)	(0.0002)	(0.027)	(0.006)	(0.003)	(0.001)
Pseudo R^2	0.010		0.011		0.021		0.010	
Observations	101		322		130		389	

Notes: Coefficients, robust standard errors, and marginal effects are shown for *Integrating* (i.e., Extensively or Occasionally) the use of AI in teaching and for an *Open* (i.e., Completely or Moderately) stance on student use of AI tools. Marginal effects are calculated holding *Female* and *English 2L* at 0, *Tenure-track* at 1, and all continuous variables at their means.



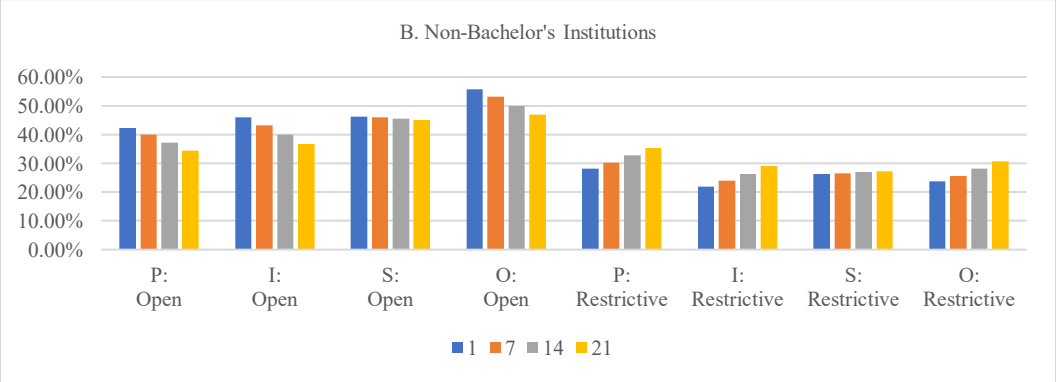


FIGURE C.1: PREDICTED PROBABILITIES FOR INSTRUCTOR STANCE ON STUDENT USE OF AI TOOLS BY COURSE, INSTITUTIONAL TYPE, AND YEARS OF EXPERIENCE

Notes: Predicted probabilities are calculated from the ordered logit regressions by course type, institutional type, and instructor years of experience. Results are shown for instructors with one, seven, fourteen, and twenty-one years of experience. Variables are coded as follows: *Open*= Completely or Moderately open; *Restrictive*= Completely or Moderately restrictive. P= Principles and Survey; I= Intermediate Theory; S= Statistics and Econometrics; O= Other Upper-Division Field.