

# Comprehensive Oral Final Exams Improve Student Learning Through Social Constructivism



Tim Rozell, Ashley Rhodes and Jessica Winkler

Kansas State University, Manhattan, KS

# The Oral Final Option

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- Process:
  - Three rounds:
    - Basic mechanisms
    - System interactions
    - Free round (no rules)
  - Students draw structures, describe mechanisms, make lists
  - All students participate at all times



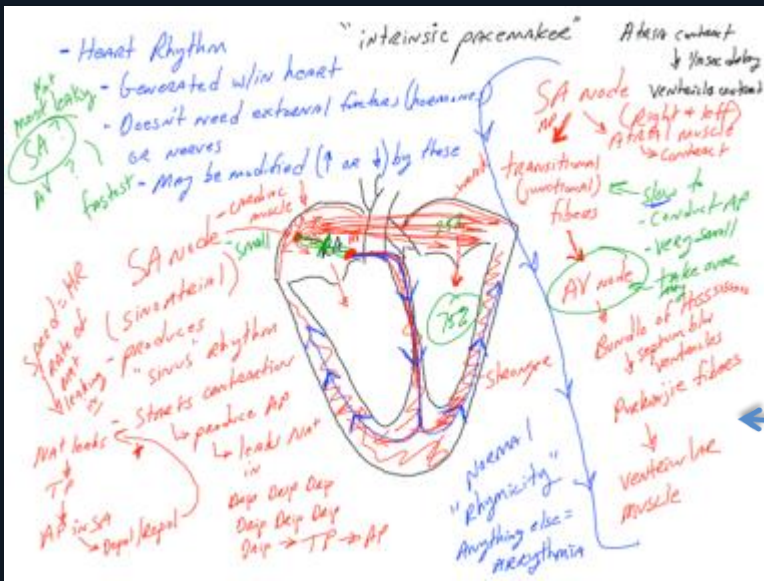
# The Written Final Option

- Similar format to unit exams
- Mixture of short answer and multiple choice
  - Questions are more broad but link multiple concepts

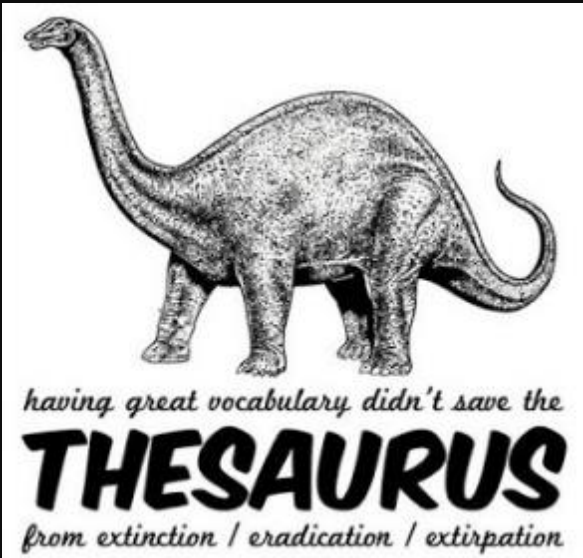




# The Oral Final Exam

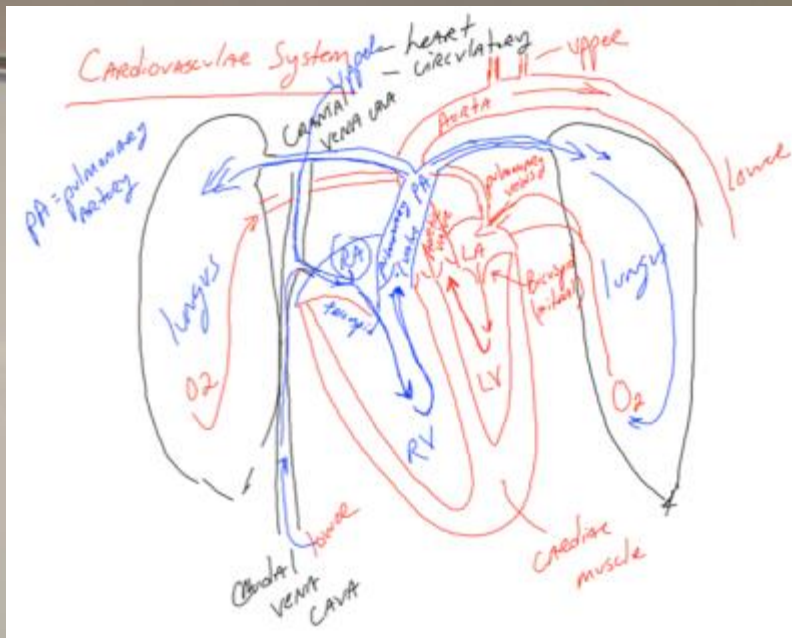


## Advantages

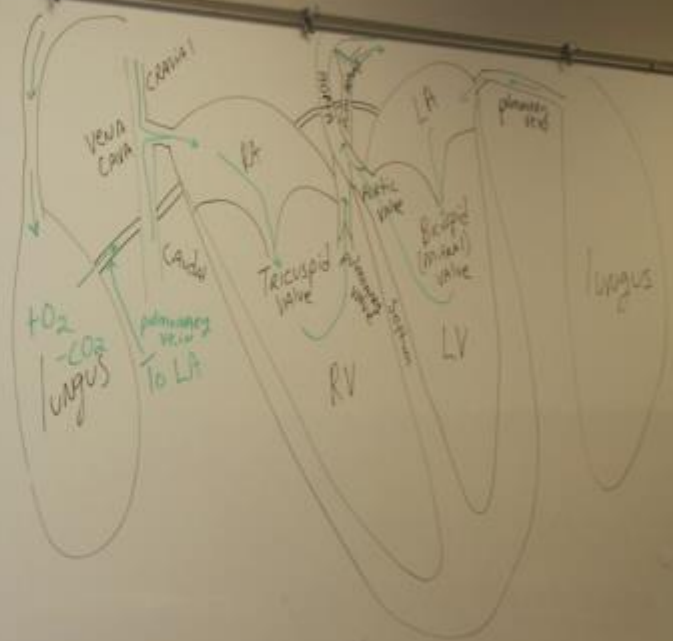


MOTIVATION.

# Final Exam Preparation



gh  
low



LV — PRESS = 120 high  
>10 low

# The Oral Final Exam

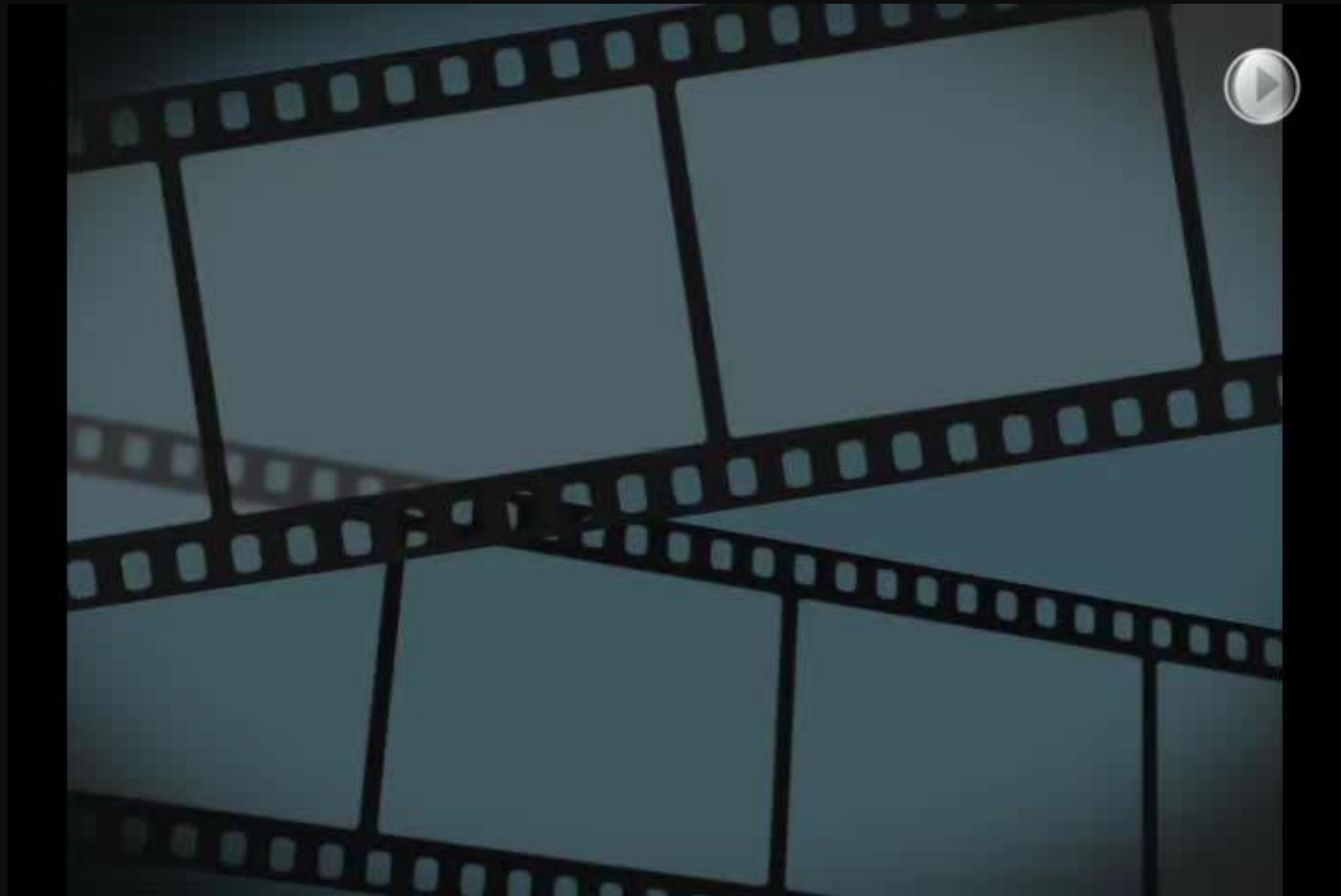
- Process:
  - Grading:

Students know grades within 1 hour or less after exam

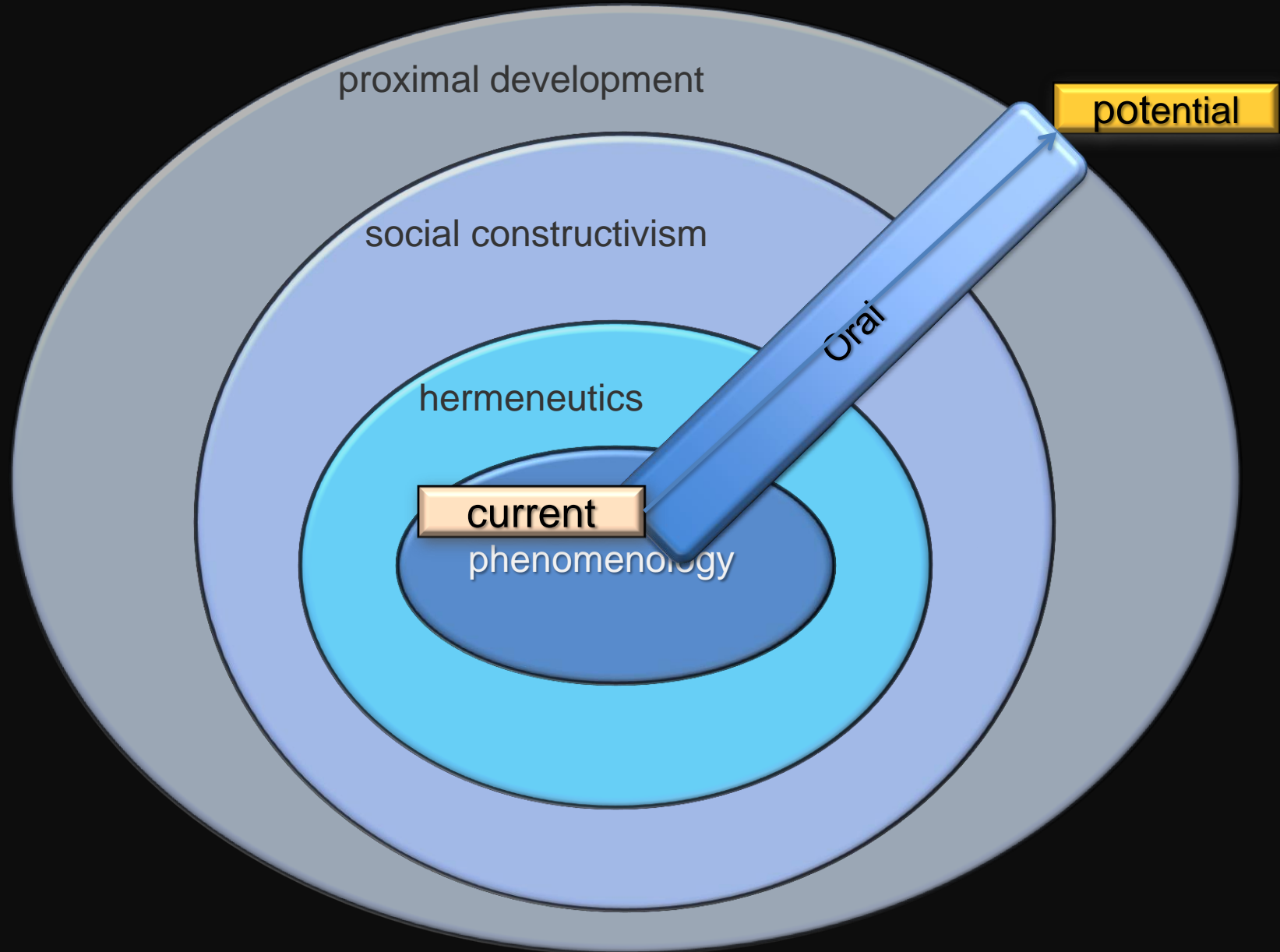
Grade on oral final may replace entire semester grade

4-Digit	Conduct	Details	Terminology	Mechanisms	Interactions	Subtotal	%	Grade
4-Digit	Avg	Avg	Avg	Avg	Avg			
	5	10	5	40	40	100	100	A
0111	2	8.5	3	21	22	56.5	56.5	F
0178	4	5	2.5	31	33	75.5	75.5	C
0204	5	9.5	4.5	38.5	38	95.5	95.5	A
0315	5	9.5	5	39	38.5	97	97	A
0411	5	9	4.5	38.5	38	95	95	A
1013	5	9	4	38	38	94	94	A
1020	5	6	3	29	32.5	75.5	75.5	C
1059	5	8.5	4	38	38	93.5	93.5	A
1113	5	8.5	4	37	37	91.5	91.5	A
1217	5	7	3.5	37	37	89.5	89.5	A
1219	5	5	3	30	32.5	75.5	75.5	C
1329	5	3.5	3.5	25	33	70	70	C
1481	5	6	3	32	33.5	79.5	79.5	B
1890	5	8.5	4	37	37	91.5	91.5	A
2212	5	9	4.5	38.5	39.5	96.5	96.5	A
2322	5	7.5	4	36	37	89.5	89.5	A
2339	5	7	4	37	36.5	89.5	89.5	A
2518	5	7	3.5	28.5	32	76	76	C
2651	5	9	5	38	38.5	95.5	95.5	A
2800	5	9	5	38	39.5	96.5	96.5	A
4103	4.5	3.5	1	30	27	66	66	D
4119	5	6.5	3	33	35	82.5	82.5	B
4372	5	8	4	37.5	37	91.5	91.5	A
4747	5	9.5	5	39.5	38	97	97	A
5257	5	9.5	4.5	39.5	37.5	96	96	A
5549	5	7.5	3.5	37	37.5	90.5	90.5	A
5824	5	7	4	35	35.5	86.5	86.5	B
6236	5	9.5	4.25	37.5	38.5	94.75	94.75	A
6356	5	6	3.5	36	35	85.5	85.5	B
6425	5	6.5	3.5	34	33	82	82	B
6663	5	8	4	37	36	90	90	A
7443	5	6	3	30.5	35	79.5	79.5	B
7751	5	9.5	4.5	38	38	95	95	A
7784	5	6.5	3.5	33.5	33	81.5	81.5	B
8180	5	6.5	2.5	33.5	34	81.5	81.5	B
8290	5	7.5	3.5	34.5	35.3	85.8	85.8	B
8296	3	7	4	29	25.75	68.75	68.75	D
8412	4.5	5	3	35	37	84.5	84.5	B
8629	5	6	3.5	32	34	80.5	80.5	B

# Oral Final Exam Process

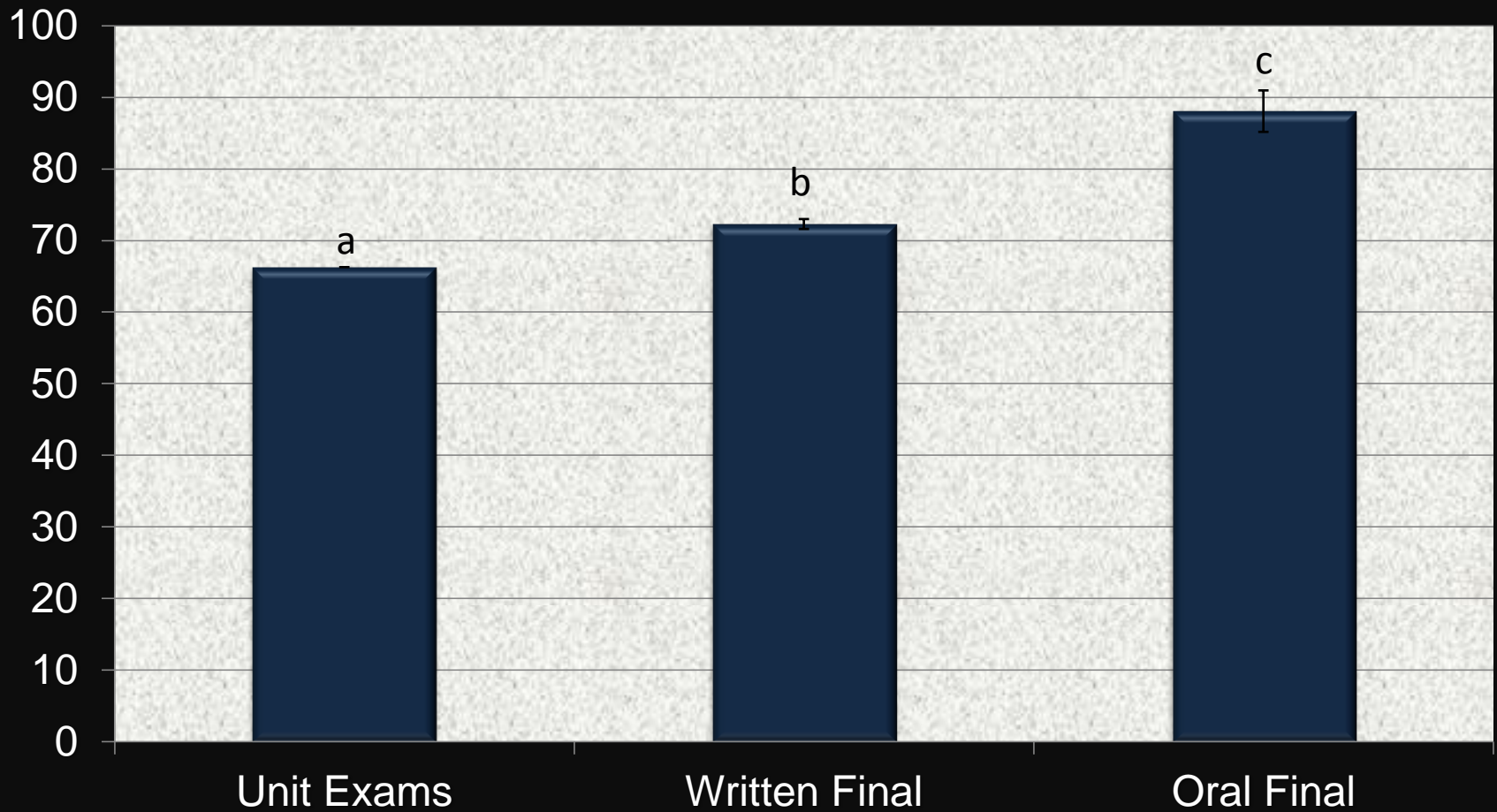


# Goal: Close gap between current & potential intellectual development



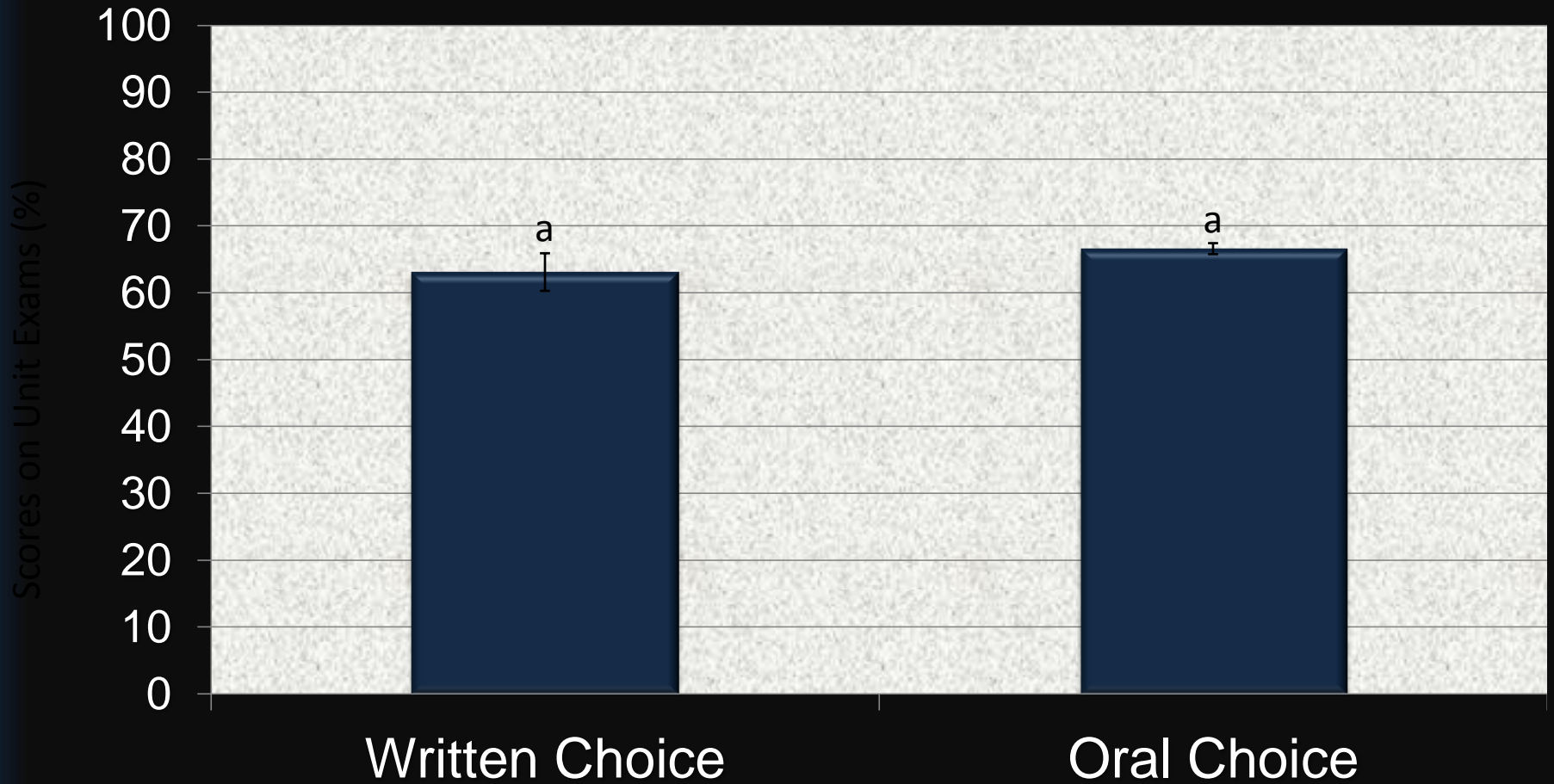


# Average Scores on Exams



(Data from F10 – S12; 6 semesters, 457 total observations)

# Written Vs. Oral Final Student Populations

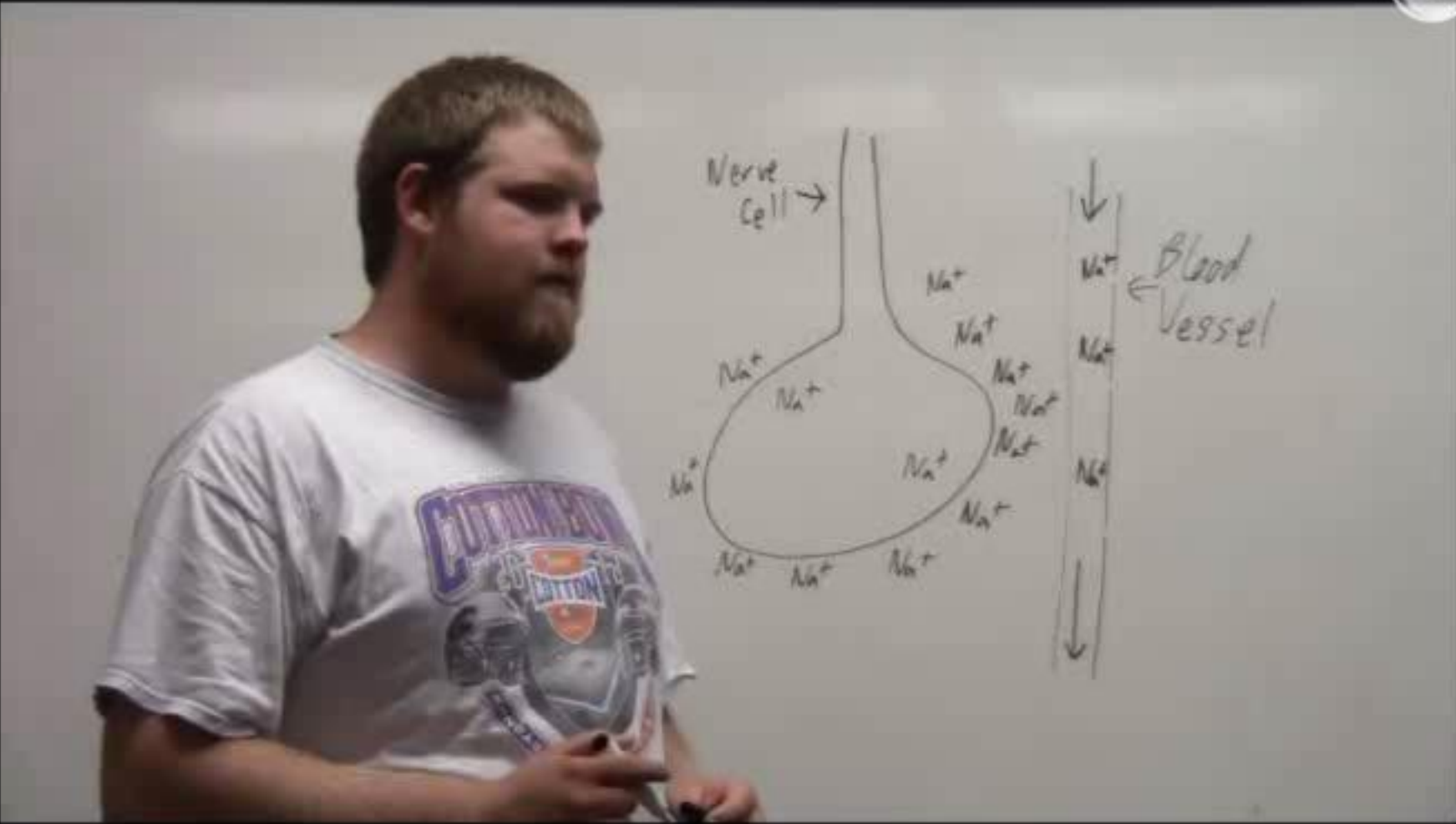


# The Oral Final Exam



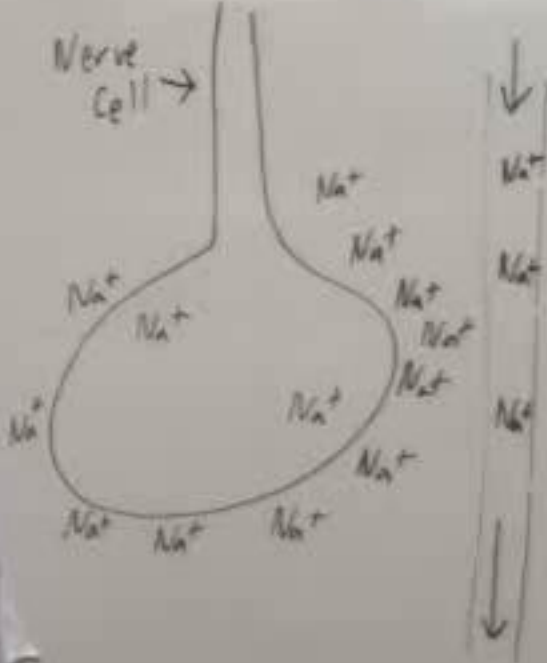
Disadvantages





Nerve Cell →

← Blood Vessel





# Conclusions

- Students achieved higher scores on oral exams
- Fundamentals of social constructivism:
  - Preparation phase
  - Experience during exam

