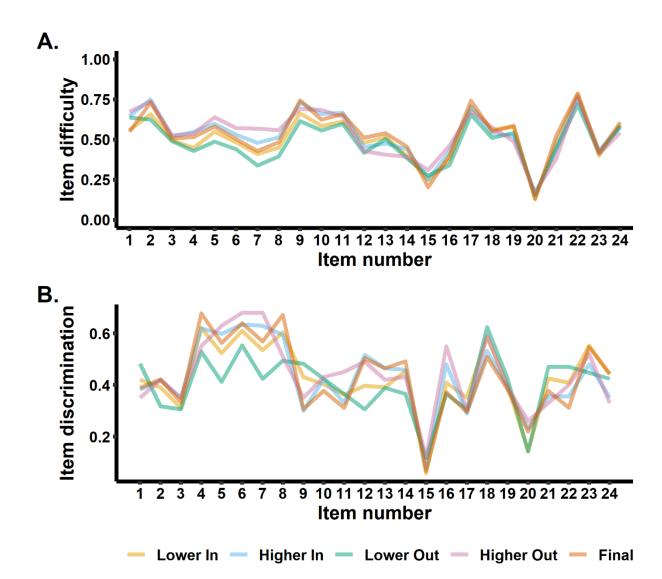
Supplemental Material CBE—Life Sciences Education Uminski et al.

How administration stakes and settings affect student behavior and performance on a biology concept assessment

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Supplemental Figure 1. Item difficulty and discrimination values for each question on the IMCA in the different administration conditions. The item number corresponds to the numbering scheme used in Shi et al., (2010). (A) Items with higher difficulty values indicate a higher proportion of students responded to the item correctly. (B) Items with a high discrimination value indicate that the item differentiated well between high- and low-performing students.

Supplemental Table 1. Item difficulty and discrimination						
	for the full-length IMCA instrument administered in 201 Item Difficulty Discrimination					
Item	Difficulty					
1	0.85	0.28				
2	0.86	0.24				
3	0.62	0.45				
4	0.6	0.81				
5	0.66	0.74				
6	0.69	0.74				
7	0.62	0.80				
8	0.69	0.62				
9	0.89	0.28				
10	0.86	0.27				
11	0.81	0.41				
12	0.62	0.50				
13	0.58	0.36				
14	0.52	0.54				
15	0.34	0.33				
16	0.45	0.46				
17	0.82	0.30				
18	0.72	0.45				
19	0.55	0.54				
20	0.24	0.31				
21	0.52	0.59				
22	0.86	0.30				
23	0.56	0.60				
24	0.69	0.50				

Parameter	Sum Sq	Mean Sq	df	F	
Administration condition	14807266	4935755	3	76.768	<.00
Post-hoc comparisons					
Contrast	Estimate	SE	df	t	
Higher In: Higher Out	-218.4	16.9	1097	-12.88	<.00
Higher In: Lower In	39.1	15.4	1888	2.55	.05
Higher In: Lower Out	-19.6	19.0	1899	-1.03	.73
Higher Out: Lower In	257.5	18.1	1900	14.24	<.00
Higher Out: Lower Out	198.8	21.2	1895	9.36	<.00
Lower In: Lower Out	-58.7	18.6	1101	-3.15	.00

Supplemental Table 3. Computations of Fisher's z-tests concerning differences between correlations of concept assessment score and average unit exam score							
	Lower In	Higher In	Lower Out	Higher Out	Final		
Lower In	-	0.405	0.190	0.017	0.007		
Higher In	0.405	-	0.013	0.009	0.010		
Lower Out	0.190	0.013	-	0.160	0.000		
Higher Out	0.017	0.009	0.160	-	0.000		
Final	0.007	0.010	0.000	0.000	-		
Red text indicates significant differences in correlation values.							