

Appendix 2: Exploratory Factor Analyses

KMO and Bartlett's Test

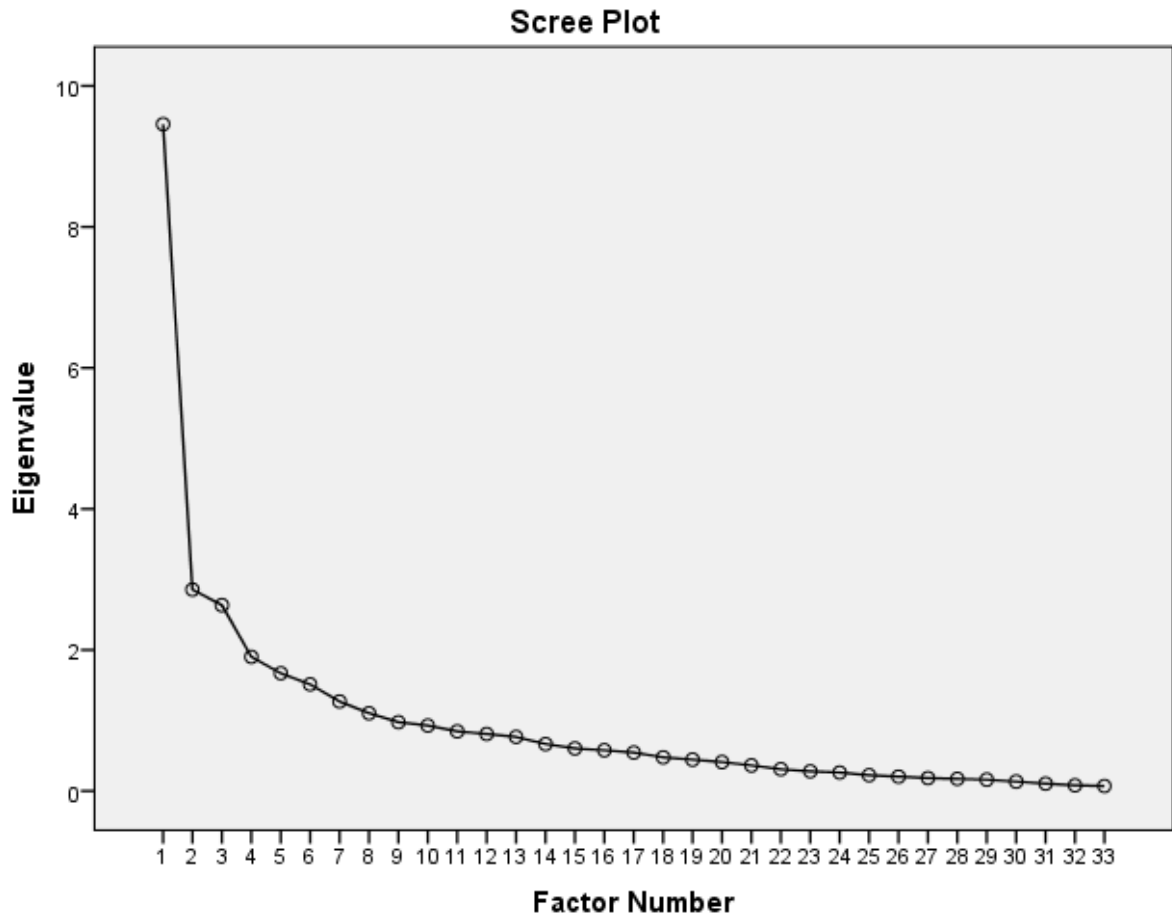
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.785
Bartlett's Test of Sphericity	Approx. Chi-Square
	2196.521
	df
	528
	Sig.
	.000

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.457	28.658	28.658	8.931	27.064	27.064	5.981	18.123	18.123
2	2.856	8.655	37.314	2.427	7.354	34.418	3.529	10.693	28.816
3	2.635	7.985	45.299	2.211	6.701	41.119	3.079	9.330	38.146
4	1.902	5.765	51.064	1.543	4.675	45.794	2.524	7.648	45.794
5	1.670	5.061	56.125						
6	1.512	4.583	60.708						
7	1.269	3.846	64.553						
8	1.103	3.344	67.897						
9	.976	2.957	70.854						
10	.928	2.811	73.665						
11	.846	2.563	76.228						
12	.808	2.449	78.677						
13	.767	2.323	81.000						
14	.666	2.017	83.017						
15	.604	1.830	84.847						
16	.578	1.750	86.598						
17	.545	1.651	88.248						
18	.478	1.447	89.695						
19	.445	1.347	91.043						
20	.411	1.244	92.287						
21	.363	1.099	93.386						
22	.308	.934	94.320						
23	.279	.846	95.166						
24	.262	.795	95.960						
25	.224	.678	96.639						
26	.204	.618	97.257						
27	.184	.557	97.814						
28	.172	.522	98.336						
29	.161	.488	98.825						
30	.134	.405	99.229						
31	.105	.318	99.548						

32	.079	.240	99.788						
33	.070	.212	100.000						

Extraction Method: Principal Axis Factoring.



Rotated Factor Matrix^a

Item No		Factor			
		Active Learning	Concept Learning	Resources	Process Skills
1	Pace_of_class_5.3	.447			
2	Attending_class_6.1	.546			
3	Working_with_Peers_10.3	.602			
4	Working_with_Peers_outside_10.4	.423			
5	Explanation_instructor_why_small_groups_9.2	.475			
6	Explanation_why_focus_topics_presented_9.3	.522			
7	Confidence_understanding_material_G3.4	.644			
8	Confidence_can_do_3.5	.618			
9	Comfort_lvl_complex_ideas_3.6	.636			
10	Participating_class_discussions_6.2	.487			
11	Listening_to_discussions_6.3	.619			
12	Participating_Group_Work_6.4	.706			
13	Class_Activities_help_lng_6.5	.412			
14	Number_spacing_tests_7.1	.519			
15	Grading_system_what_I_need_to_work_7.4	.552			
16	Feedback_on_my_work_tutorials_7.5	.612			
17	Connecting_key_ideas_other_knowledge_4.1	.561			
18	<i>Willing_help_others (teacher, peers, TA)_3.7</i>	.610			
19	Molecular_Forces_1.3.5		.546		
20	SN1_SN2_rxn_mechanism_1.3.9		.520		
21	Distinguishing_Isomers_1.3.10		.769		
22	Classifying_chiral_achiral_molecules_1.3.11		.770		
23	Identifyinig_StereoCentres_1.3.12		.717		
24	Ideas_VS_ideas_other_classes_1.4		.584		
25	Ideas_VS_Major_1.5		.558		
26	Mini_lectures_BlackBoard_8.4			.796	
27	Pencasts_8.5			.869	
28	Pencasts_solutions_HW_problems_8.6			.885	
29	Interacting_with_Instructor_office_hrs_10.2			.460	
30	Argument_use_of_evidence_G2.2				.888
31	Identify_Data_Pattern_G2.1				.680
32	Develop_logical_argument_2.3				.801

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.