Electronic Supplementary Material (ESI) for Chemistry Education Research and Practice. This journal is © The Royal Society of Chemistry 2016

## **Appendix 1: SALG Instrument**

	Student Assessment of their Learning Gains					
Instructions: Please fill in one box only for the following statements corresponding to the scale		Q,	help	Moderate help	dləı	elp
indicated by completely filling the circle • with a blue or black ballpoint pen.		No help	A little help	Modera	Much help	Great help
Active Learning HOW MUCH did each of the following aspects of the class HELP YOUR LEARNING?						
1	Attending class	1	2	3	4	5
2	The pace of class	1	2	3	4	5
3	Working with peers	1	2	3	4	5
4	Working with peers outside the class	1	2	3	4	5
5	Explanation of instructor for involving small groups	1	2	3	4	5
6	Explanation of why the class focus on topics presented	1	2	3	4	5
7	Participating in class discussions during class	1	2	3	4	5
8 9	Listening to discussions  Participating in group work during along	1	2	3	4	5
10	Participating in group work during class Class activities help learning	1	2	3	4	5
11	The number and spacing of tests	1	2	3	4	5
12	The feedback on my work received during and after tutorials	1	2	3	4	5
13	Connecting key ideas to other knowledge	1	2	3	4	5
14	Confidence that you understand the material	1	2	3	4	5
15	Grading system what I need to work	1	2	3	4	5
16	Comfort level in working complex ideas	1	2	3	4	5
17	Confidence in ability to do POGIL activities	1	2	3	4	5
18	Willingness to seek help from others (instructor, peers, tutor) when working on academic problems	1	2	3	4	5
Concept Learning						
As a result of your work in this class, what GAINS DID YOU MAKE in your UNDERSTANDING of each of the following?						
19	SN1 SN2 reaction mechanism	1	2	3	4	5
20	Distinguishing different types of isomers	1	2	3	4	5
21	Classifying compounds as chiral/achiral	1	2	3	4	5
22	Identifying StereoCentres in molecules	1	2	3	4	5
23	Attractive forces between molecules and effect on physical properties	1	2	3	4	5
24	Applying curved arrow conventions to describe bond forming and bond breaking processes	1	2	3	4	5
25	The reactions of alkyl halides and nucleophilic substitutions	1	2	3	4	5
Resources HOW MUCH did each of the following aspects of the class HELP YOUR LEARNING?						
26	Mini lectures posted on the Blackboard	1	2	3	4	5
27	Pencasts posted on the Blackboard	1	2	3	4	5
28	Pencasts solutions homework problems	1	2	3	4	5
29	Clickers during instruction	1	2	3	4	5
Process Skills						
As a result of your work in this class, what GAINS DID YOU MAKE in the following SKILLS?						
30	Identifying patterns in data	1	2	3	4	5
31	Recognizing a sound argument and appropriate use of evidence	1	2	3	4	5
32	Developing a logical argument	1	2	3	4	5