

Student Response Pad Report

An Evaluation of Student Response Pad Integration

Submitted to

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Executive Summary

Purpose & Methodology

This evaluation was conducted to better understand what drives teachers in the Salmon River Joint School District 243 to use—or refrain from using—student response pads. Evaluator Stefanie Brimacomb conducted an online survey for 100% of the district’s teaching population (14 teachers) to help the district make a decision as to how to proceed with the device use and teacher professional development.

Based on the district’s needs, Mrs. Brimacomb chose to use Michael Scriven’s Goal-Based evaluation model to determine the efficiency, effectiveness, and impact of the student response pads. Data collection was achieved by two methods: direct observation during a two week period, and an online survey instrument (Appendix A) that provided a measure of anonymity to the participants. The survey was developed by CDW (private sector firm) and is proven for reliability and validity. It was approved by the program staff and the evaluator to be used for the purpose of this evaluation with permission of CDW as long as the study is for educational purposes and there is no gain to be realized by the evaluator.

Respondents are teachers with a minimum of two years’ teaching experience and a maximum exceeding 11 years’ teaching experience. Three (3) of the fourteen (14) teachers have had teaching experience outside the district – all others have worked their entire career at this district, two of whom have been employed in excess of 11 years (Table 1).

Teaching Experience (In Years)					
	0-2	3-5	6-10	11 or more	Total Respondents
Teaching Experience at JSD243	3	6	3	2	14
Total Teaching Experience	2	5	2	5	14
<i>Data retrieved from Idaho Schools for Educational Excellence (September, 2012)</i>					

Findings

Two themes emerged from this study: 1) Teachers who readily integrate other technologies do not use student response pads, and 2) teachers indicate a desire to use student response pads after additional training.

Direct observation revealed that one teacher plans for and uses student response pads in the

classroom. No student response pad use is evident through submitted lesson plans or classroom observation on the thirteen remaining teachers. Of thirty two observations, only one included the use of student response pads (8 students), and the teacher was experiencing technical difficulties in the form of battery failure on two of the response pads, taking up 7 minutes of instructional time before she told students to put the devices away.

The survey revealed a similar pattern from responses to the online survey. Only one teacher uses response pads regularly and views them as a critical factor in teaching and learning. The remaining participants note that they do not (or no longer) use the response pads. 100% indicate they would use them after receiving 1 on 1 classroom training.

Detailed Summary

Introduction

Community

Riggins, Idaho is an isolated community in a deep river canyon. Much of the community is built on tourism and recreation. Area employment fluctuates with the economy and other than school district and forest service employees, most wage earners work for low hourly wages and tips. With an average annual income of \$23,000 (U.S. Census, 2010), two-thirds of the students qualify for Free-and-Reduced lunch rates. According to a 2010 straw poll secondary students are technology-rich despite their socioeconomic status (Barany, 2010). They are familiar with (and own) cell phones, mobile devices, digital cameras, and video gaming devices.

Elementary School Setting

Currently, Salmon River Joint School District 243 (SRJSD243) has four elementary classrooms (K-5) where four classroom teachers and one special education teacher teach 58 students. With the exception of the first grade teacher, these teachers are fairly new to teaching with 1-6 years teaching experience. Kindergarten and first grade are taught separately, second and third grades are taught in a blended classroom, and fourth and fifth grades are taught in a blended classroom. The special education teacher works as a team teacher with the classroom teachers and travels between classrooms. Every classroom is fitted with a projection/surround sound system, student response pads, and portable Mobi Interwrite boards. A mobile laptop cart (12 laptops) with up-to-date operating system and software is available on a reservation basis to all teachers K-5. In addition, there is an up-to-date computer lab for technology instruction, and one 20-unit iPad classroom set which is available on a reservation basis to all teachers K-5.

Secondary School Setting

The middle school and high school are on the same campus with slightly different bell schedules. Eight classroom teachers and one special education teacher teach seven or more “preps” each day to 72 students – the largest student group is 14 students. In addition, one classroom is dedicated to online instruction and has a full time paraprofessional proctor. Two teachers have been teaching for more than 10 years, four teachers are young (mid to late 20’s), and two veteran teachers are new to our district after retiring from another area and deciding to go back in to teaching.

Every classroom is fitted with a projection/surround sound system, student response pads, and portable Mobi Interwrite boards. Two mobile laptop carts (12 laptops each) are available on a reservation basis to all teachers and are heavily used. In addition, two classrooms are fitted with a set of 12 laptops – the online lab, and the social studies lab (separate building). The computer lab is fitted with 14 high-performance workstations. The secondary school also has a newly acquired 20 unit iPad cart available on reservation to all teachers. All computers and iPads

feature up-to-date operating systems and software or apps.

District Setting and Objectives

The schools maintain a culture of standards-based assessment and student achievement. The district's educational technology philosophy is to "...prepare students for lifelong learning and success in a rapidly changing society. To this end, we provide our students and staff with access to a variety of current technologies, and promote the skills and abilities necessary to utilize these technologies to the fullest advantage" (SRJSD243, 2011). In order to fulfill this mission, the district takes professional development seriously and budgets for regular training sessions, as well as for transportation reimbursement and credit reimbursement. The district supports proven technologies and is focused on providing data-driven instruction following the Common Core State Standards.

Students drive the use of technology. All teachers use the laptops, available labs, projectors, and iPads. Most teachers consistently integrate available technologies into their curriculum with the exception of their classroom set of student response pads, which are the focus of this evaluation.

Purpose

SRJSD243 has invested a substantial part of discretionary funds in providing a rigorous curriculum and a high-quality education to its students using data-driven instructional methods. A large part of those funds are dedicated to classroom technology. For the past five years, the district has ensured that every classroom teacher has the technology tools and the professional development to integrate current technologies into their curriculum to facilitate learning and instruction, and assessment and feedback. All classrooms are fitted with projectors, surround sound, Mobi Interwrite pads, student response systems, and up to five workstations. All teachers have ready access to mobile laptop labs, computer labs, and iPad labs. The laptops, workstations, and iPads have the latest operating systems, software and apps installed.

Due to time constraints, the purpose of this investigation was narrowed to focus on the effectiveness of technology training and implementation in regards to student response pads. The results will determine if teachers have the training and skills to use the student response pads, and understand the purpose of student response pads.

Methods

SRJSD243 employs 14 certified teachers, four paraprofessionals, two administrators, and four-six support staff. Because of the low population size (14), all certified teachers in the district were included in this study.

Direct observations were made during a two week period between November 26 and December 6, 2012. Thirty-two observations were made at the elementary school and the secondary school with the following criteria:

Response pad use: Yes No

A six-question survey was deployed using ordinal data (a Likert scale for three questions and ranking scale for one question) and nominal data (checklist format on two questions). The survey link was sent to 14 teachers via e-mail and was available for a two week period between November 26 and December 6, 2012. 14 teachers responded and results were compiled using the Survey Monkey basic analysis feature.

Data Analysis and Results

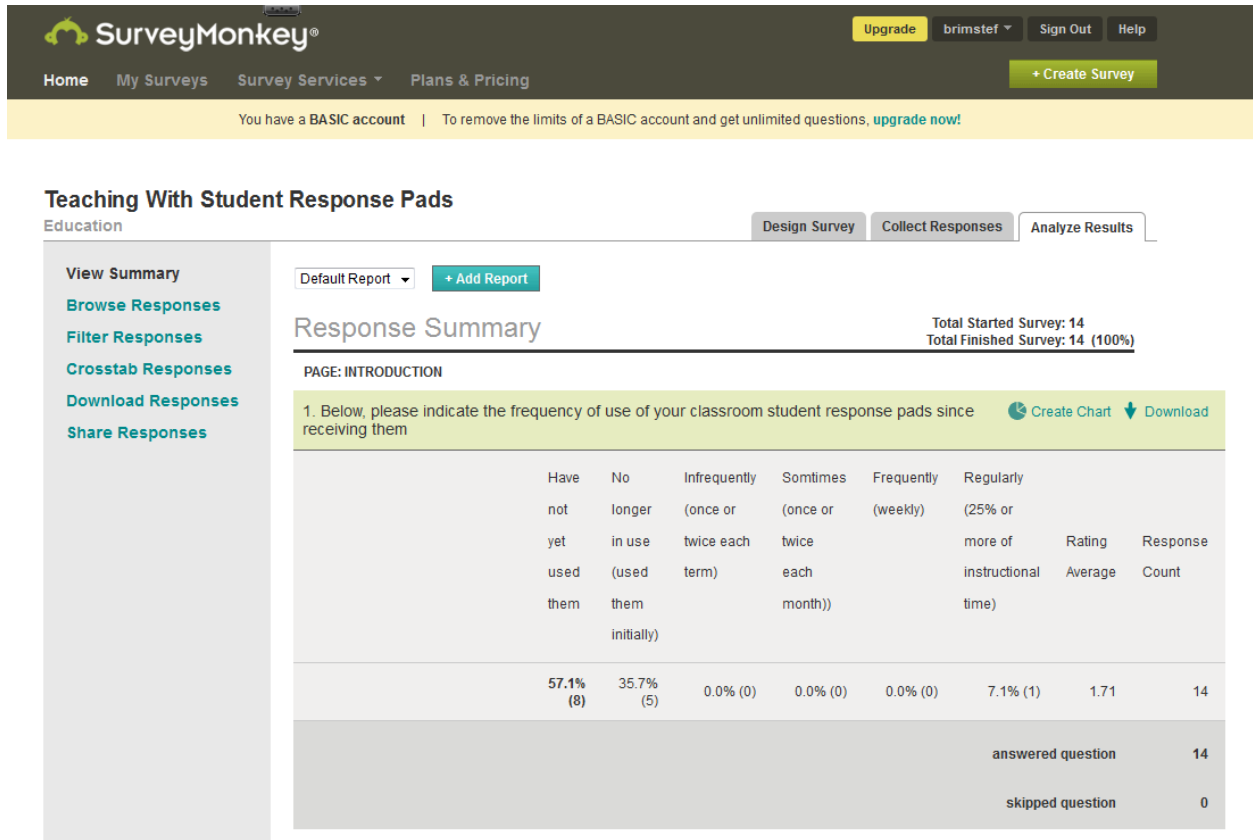
Direct Observation

Date	Teachers Observed	Number of Uses	Number of Non-Uses
November 26	3	0	3
November 27	5	0	5
November 28	5	1	4
November 29	4	0	0
December 3	4	0	4
December 4	6	0	6
December 5	0	0	0
December 6	5	0	5
Total Observations	32	1	31

Direct observation revealed that one teacher plans for and uses student response pads in the classroom. No student response pad use is evident through submitted lesson plans or classroom observation on the thirteen remaining teachers. Of thirty two observations, only one included the use of student response pads (8 students), and the teacher was experiencing technical difficulties in the form of battery failure on two of the response pads, taking up 7 minutes of instructional time before she told students to put the devices away.

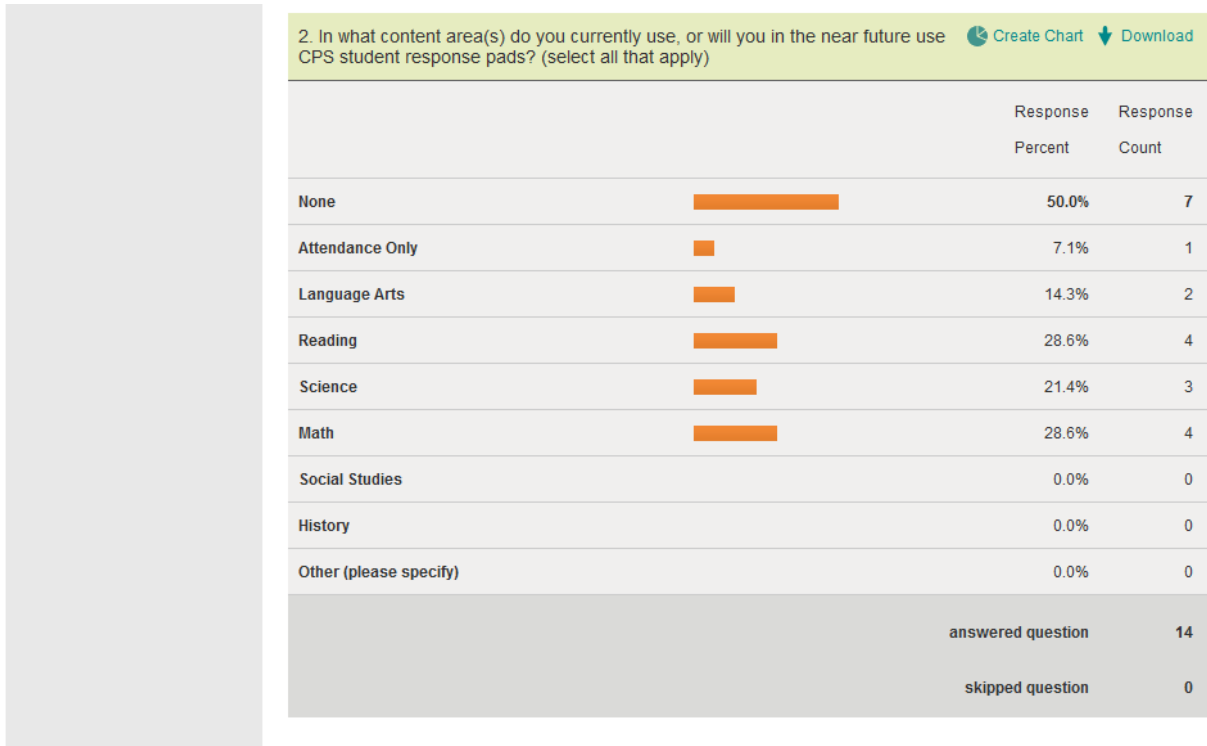
Online Survey Instrument

Survey Question 1: Frequency of Use



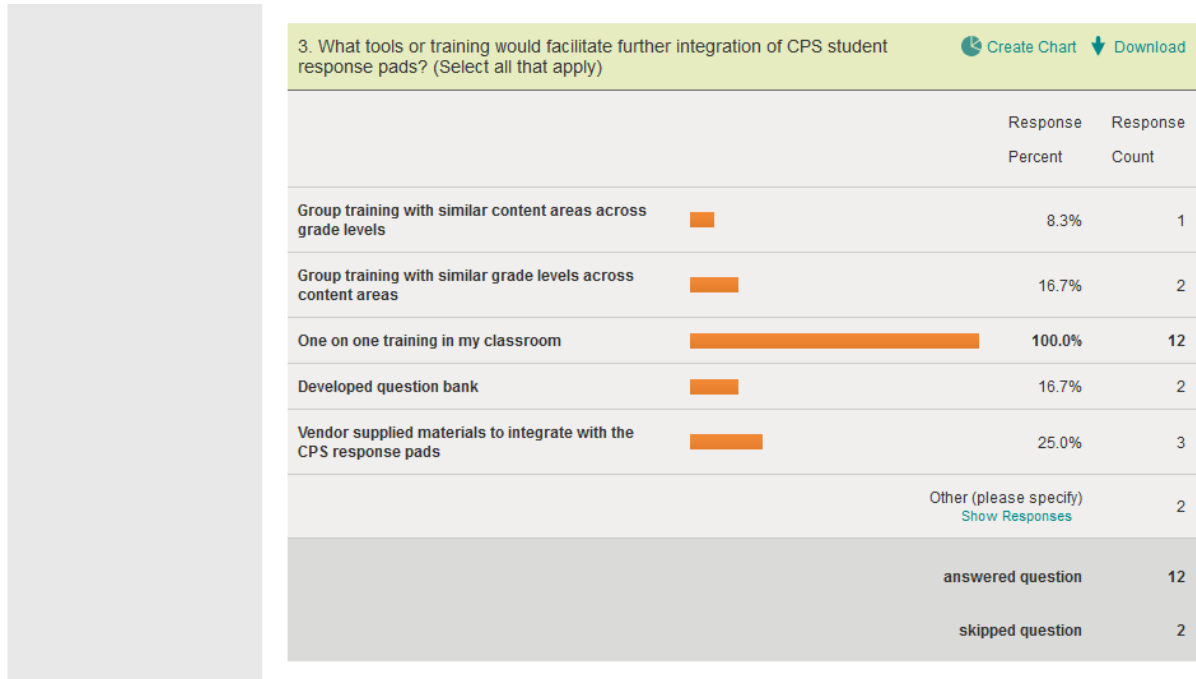
Of 14 teachers, one (7.1%) uses student response pads regularly, defined as 25% or more of instructional time. Five teachers (35.7%) used the response pads initially, but no longer use them, and eight teachers (57.1%) have never used the student response pads. The district has replaced six teachers since the response pads were introduced, so two of the teachers who report never having used the response pads, five teachers who no longer use the response pads, and one teacher who regularly uses the response pads have received two six-hour training sessions on response pad use.

Survey Question 2: Content Area



Half the teachers (7) responded there is no subject for which they use (or foresee using in the near future) response pads. Reading and Math are the primary subjects in which 28.6% teachers use (or foresee using in the near future) response pads, with Science (21.4%) and Language Arts (14.3%) closely following. It was interesting to note that one teacher found student response pads useful for attendance only, and no teachers (0%) indicated they would use them for social studies, history, or other.

Survey Question 3: Needs Assessment



Two respondents skipped this question. 100% of the respondents who answered indicated one-on-one training would facilitate further integration of student response pads. Other tools or training were (in order of preference) vendor supplied materials for integration with the response pads (25%), group training with similar grade levels across content areas (16.7%), a developed question bank (16.7%), and group training with similar content areas across grade levels (8.3%).

Survey Question 4: Goals in relation to improving learning and instruction

4. Using the following scale, please rate your goals for current or future CPS use in relation to Improving learning and instruction in these areas:							
	Not Important	Somewhat Important	Important	Highly Important	Critically Important	Rating Average	Response Count
To gain a better understanding of what students do and do not understand	7.1% (1)	28.6% (4)	57.1% (8)	0.0% (0)	7.1% (1)	2.71	14
To promote student learning	28.6% (4)	14.3% (2)	50.0% (7)	0.0% (0)	7.1% (1)	2.43	14
To increase the effectiveness of instruction overall	28.6% (4)	21.4% (3)	42.9% (6)	0.0% (0)	7.1% (1)	2.36	14
To increase student attention and activity during lectures	28.6% (4)	7.1% (1)	57.1% (8)	0.0% (0)	7.1% (1)	2.50	14
To make students more aware of their conceptual understanding	21.4% (3)	14.3% (2)	57.1% (8)	0.0% (0)	7.1% (1)	2.57	14
To stimulate class discussion about an idea or concept	14.3% (2)	21.4% (3)	57.1% (8)	0.0% (0)	7.1% (1)	2.64	14
To differentiate or individualize instruction	28.6% (4)	21.4% (3)	42.9% (6)	0.0% (0)	7.1% (1)	2.36	14
Other (please specify)							0
answered question							14
skipped question							0

SRJSD243 teacher responses ranked the goals for student response pad use in relation to improving learning and instruction as follows:

1. (2.71) To gain a better understanding of what students do and do not understand.
2. (2.64) To stimulate class discussion about an idea or concept.
3. (2.57) To make students more aware of their conceptual understanding.
4. (2.50) To increase student attention and activity during lecture.
5. (2.43) To promote student learning.
6. (2.36) To increase the effectiveness of instruction overall.
7. (2.36) To differentiate or individualize instruction.

Survey Question 5: Goals in relation to improving assessment and feedback

5. Using the following scale, please rate your goals for current or future CPS use in relation to improving assessment and feedback Create Chart Download							
	Not Important	Somewhat Important	Important	Highly Important	Critically Important	Rating Average	Response Count
To get instant feedback from students	7.1% (1)	28.6% (4)	57.1% (8)	0.0% (0)	7.1% (1)	2.71	14
To increase teacher productivity	21.4% (3)	42.9% (6)	28.6% (4)	0.0% (0)	7.1% (1)	2.29	14
To save time required for scoring formal or informal assessment	14.3% (2)	28.6% (4)	50.0% (7)	0.0% (0)	7.1% (1)	2.57	14
To assess student learning (for purposes of assigning grades)	7.1% (1)	35.7% (5)	50.0% (7)	0.0% (0)	7.1% (1)	2.64	14
To enhance feedback to students about their understanding of target concepts and ideas	7.1% (1)	28.6% (4)	57.1% (8)	0.0% (0)	7.1% (1)	2.71	14
answered question							14
skipped question							0

SRJSD243 teacher responses ranked the goals for student response pad use in relation to improving assessment and feedback as follows:

1. (2.71) To get instant feedback from students.
2. (2.71) To enhance feedback to students about their understanding of target concepts and ideas.
3. (2.64) To assess student learning (for purposes of assigning grades).
4. (2.57) To save time required for scoring formal or informal assessment
5. (2.29) To increase teacher productivity

Survey Question 6: Prioritize benefits of student response pad use

6. Rank the following benefits from current or future use of CPS response systems						Create Chart	Download
	1	2	3	Rating Average	Response Count		
Enhanced feedback to students	64.3% (9)	21.4% (3)	14.3% (2)	1.50	14		
Improved classroom environment	21.4% (3)	14.3% (2)	64.3% (9)	2.43	14		
Improved learning and engagement	14.3% (2)	64.3% (9)	21.4% (3)	2.07	14		
					answered question	14	
					skipped question	0	

Although at first glance the rating average appears to contradict the ranking, it is not so. Because ranking number 1 indicates the first priority, the lower the average, the higher the priority. Teachers indicate the benefits from use of response systems are (in order of priority):

1. Enhanced feedback to students
2. Improved learning and engagement
3. Improved classroom environment

Conclusions

The purpose of this investigation was to better understand what drives teachers in the Salmon River Joint School District 243 to use—or refrain from using—student response pads. Direct observation showed teachers do not use the devices in their day-to-day instruction. Survey responses indicate a lack of knowledge, understanding and skill with the current teaching staff creates an environment that is not conducive to integrating the response pads with the course curriculum.

100% of the district’s teachers indicate additional training, specifically one-on-one training, would facilitate increased use of the student response pads. Given the investment made in purchasing the devices, the initial training, and the benefits in using the devices, it would be feasible and recommended to provide 8-12 hours of additional group instruction followed by peer/mentor one-on-one training.

With additional time allotment, this investigation will continue and perform a follow-up survey after additional teacher training occurs.

Survey Instrument

Teaching With Student Response Pads

Introduction

Student response systems are a mature, scaleable technology that has the potential to improve classroom participation and student achievement (Roschelle, Penuel, & Abrahamson, 2004). Such systems entail sets of "clickers" with radio transmission of input, enabling teachers to pose questions of all students and gain immediate feedback about student understandings in a class. When used in conjunction with interactive teaching strategies such as peer discussion, such systems have been shown in past studies to produce gains in conceptual understanding (Crouch & Mazur, 2001). The following survey assesses current use of CPS response pads in Salmon River schools. It is designed for anonymous response.

1. Below, please indicate the frequency of use of your classroom student response pads since receiving them

Have not yet used them	No longer in use (used them initially)	Infrequently (once or twice each term)	Sometimes (once or twice each month)	Frequently (weekly)	Regularly (25% or more of instructional time)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. In what content area(s) do you currently use, or will you in the near future use CPS student response pads? (select all that apply)

<input type="checkbox"/> None	<input type="checkbox"/> Reading	<input type="checkbox"/> Social Studies
<input type="checkbox"/> Attendance Only	<input type="checkbox"/> Science	<input type="checkbox"/> History
<input type="checkbox"/> Language Arts	<input type="checkbox"/> Math	
<input type="checkbox"/> Other (please specify)		

3. What tools or training would facilitate further integration of CPS student response pads? (Select all that apply)

<input type="checkbox"/> Group training with similar content areas across grade levels	<input type="checkbox"/> One on one training in my classroom	<input type="checkbox"/> Vendor supplied materials to integrate with the CPS response pads
<input type="checkbox"/> Group training with similar grade levels across content areas	<input type="checkbox"/> Developed question bank	
Other (please specify)		

4. Using the following scale, please rate your goals for current or future CPS use in relation to improving learning and instruction in these areas:

	Not Important	Somewhat Important	Important	Highly Important	Critically Important
To gain a better understanding of what students do and do not understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To promote student learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To increase the effectiveness of instruction overall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To increase student attention and activity during lectures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To make students more aware of their conceptual understanding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To stimulate class discussion about an idea or concept	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To differentiate or individualize instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify)					

5. Using the following scale, please rate your goals for current or future CPS use in relation to improving assessment and feedback

	Not Important	Somewhat Important	Important	Highly Important	Critically Important
To get instant feedback from students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To increase teacher productivity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To save time required for scoring formal or informal assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To assess student learning (for purposes of assigning grades)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To enhance feedback to students about their understanding of target concepts and ideas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Rank the following benefits from current or future use of CPS response systems

<input type="checkbox"/> Enhanced feedback to students
<input type="checkbox"/> Improved classroom environment
<input type="checkbox"/> Improved learning and engagement

Done

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