

TEACHERS' PERCEPTIONS OF IMPENDING INNOVATION: The Use of Pair Work in Large-Scale Oral Assessment in Hong Kong

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The research reported in this paper was part of a larger study of an impending innovation of assessment practices in Hong Kong. Using concerns-based theory, this paper focuses on teachers' concerns regarding the use of pair work in a large-scale oral assessment and recommends measures for effective implementation of the innovation.

The importance of taking into account teachers' own attitudes and perceptions in situations where they are expected to implement new and mandatory policies and practices are of major importance for the success of the innovation process (Guskey 1988, Houston 1990, Wittrock 1986, Senger 1999). Research has shown that concerns exert a powerful influence on the implementation of reforms and determine the type of assistance that teachers may need in the adoption process. Innovations that are consistent with the belief systems of teachers have a greater chance of adoption; innovations that are more radical will create greater instability and more resistance from teachers. As teacher readiness is a key to assessing a teacher's ability to initiate, develop or adopt a given innovation, it is useful for administrators and educators to understand teachers' concerns, both before and during the implementation phase of an innovation (Fullan 1999).

BACKGROUND

In 2000, the Education Commission in Hong Kong advocated the Basic Competency Assessment (hereafter BCA) with a view to changing assessment practices in schools and to place more emphasis on assessment for learning. The BCA was proposed in the Education Commission's 2000 Report after reiterated in the Curriculum Development Council policy document entitled, *Learning to Learn: The Way Forward*. The report documented a ten-year plan for curriculum development which envisioned enabling students to attain all-round development and life-long learning. It also set out the standards expected of students to attain by the end of each key stage of basic education.

The BCA is a government initiative which comprises a large-scale assessment called the Territory-wide System Assessment (hereafter TSA). The TSA is compulsory for all primary and secondary schools funded by the HKSAR Government and covers the three core subjects: Chinese Language, English Language and Mathematics. Since 2004, the TSA has been administered yearly to all Hong Kong students enrolled in Primary 3 and 6

and Secondary 3. The main purpose of this assessment ‘is to provide the Government and school management with information on school standards in key learning areas for the purposes of school improvement so that the Government would be able to provide support to schools in the need of assistance’ (HKEAA 2006:1).

TSA is a standards-referenced assessment. Basic Competency descriptors, which are essential learning targets and objectives that students are expected to achieve by the end of each key, were drafted by the Curriculum Development Council in 2002. For English language, one of the basic competency descriptors documented for speaking was ‘providing and/or exchanging simple information and ideas’ (CDC 2002).

To assess this basic competency descriptor, the Education Bureau and the Hong Kong Examinations and Assessment Authority planned three formats for the oral assessment:

1. ‘*Reading Aloud and Teacher-Student Interaction*’ – reading aloud a text followed by a two-minute interaction between the examiner and examinee;
2. ‘*Presentation*’ – giving a two-minute presentation;
3. ‘*Pair Work*’ – maintaining a two-minute conversation with another examinee.

As the interaction for the first two formats would be limited to the examiner and examinee, it was decided by the working group that ‘*Reading Aloud and Teacher Student Interaction*’ and ‘*Presentation*’ would be first introduced in TSA, followed by ‘*Pair Work*’.

Two years later, an opinion poll was conducted at the TSA 2007 Oral Examiners’ Training Workshop to determine teachers’ readiness to introduce pair work into TSA. Oral Examiners were asked whether using pair work to assess Primary 6 students in TSA was appropriate. Of the 345 respondents, 79% expressed that pair work would not be appropriate. This study was a follow up of the opinion poll conducted in 2007 and sought to investigate teachers’ perceptions and concerns about the use of pair work in TSA.

THEORETICAL FRAMEWORK FOR THE STUDY

The study of concerns has attracted a great deal of interest as a result of the presumed link between the process of change experienced by teachers and attempts to implement innovation. Teachers are key players in any attempt to promote innovations in syllabus design (Fullan 1999, Markee 1993, Hord et. al 1988).

The Concerns-Based Adoption Model (hereafter CBAM) is concerned with measuring, describing and explaining the process of change experienced by teachers attempting to implement an innovation. Its theoretical framework dates back to the pioneer work of Fuller in the late 1960s. Fuller (1969), who focused on the concerns of teachers in training, put forward a classification of teachers' concerns consisting of three developmental stages: impact, self and task concerns. Impact concerns refer to the teachers' apprehension concerning student outcomes, while self-concerns relate to the teachers' own worries about their ability to perform in the school environment. Task stage is linked to concerns regarding daily teaching duties, especially in relation to constraints such as the large number of students in the class and the lack of resources. Fuller, Parsons and Watkins (1974) hypothesized that teachers will continually experience concerns in all three stages to some extent, however, the self concerns will be strongest with student teachers and relatively inexperienced teachers. Only when self concerns are adequately addressed can teachers begin to focus more on tasks concerns. As task concerns subside, then teachers can give full attention to impact concerns and more focus on students. Fuller's framework has provided the basis for subsequent studies of the nature of teacher concerns and 'levels of implementation' which measures the degree of change that has occurred.

The Concerns-Based Adoption Model includes three key tools used to collect relevant data: *Stages of Concerns Questionnaire* (hereafter SoCQ), *Levels of Use* and *Innovation Configuration*. The SoCQ is a 35-item questionnaire designed to assess seven stages of concern: *Awareness*, *Informational*, *Personal*, *Management*, *Consequences*, *Collaboration*, and *Refocusing*. A brief description of each stage is provided in Appendix 1. Since pair work in TSA had not yet been implemented, only the SoCQ was used to in this study.

METHODOLOGY

Participants

Questionnaires were distributed to teachers attending the Territory-wide System Assessment 2008 Primary 6 English Oral Examiners' Training Workshop. To be elected as an Oral Examiner, teachers needed to have a minimum of three years relevant teaching experience. A profile of teachers' demographics is summarized in Table 1. A total of 377 questionnaires were collected.

Instrumentation

An English version of Hall, George and Rutherford's (1977) 35-item, seven-stage questionnaire was used. Nine of the questionnaire's original items were either re-phrased or re-written to better fit the context of the present study (see Appendix 2). Five additional items were added to test for self-efficacy (see Table 6).

Respondents were asked to rate each item using a 7-point Likert scale. Five additional items on teachers' self-efficacy towards pair work were added. An open-ended question at the end of the questionnaire asked teachers to comment on the use of pair work in TSA. Before finalizing the questionnaire, five teachers were invited to participate in a pilot study to ascertain its clarity and readability.

Table 1
Demographic of Participants

Variable		Number	Percentage (%)
Gender	Male	64	17.0
	Female	311	82.5
Age	20 – 26	13	3.4
	27 – 32	135	35.8
	33 – 39	97	25.7
	40 +	125	33.2
Level of Education*	Teachers' College Cert.	200	53.1
	Bachelor Deg.	279	74
	Post-graduate Cert.	117	31
	Master's Deg.	96	25.5
	Doctorate	0	0
Teaching Experience	1 – 5 years	68	18
	6 – 10 years	131	34.7
	11 – 15 years	94	24.9
	> 16 years	82	21.8
Oral Examiner Experience	First time	345	91.5
	Experienced	29	7.7
School's Medium of Instruction	Chinese	339	89.9
	English	25	6.6
	Others	7	1.9

* Chosen as appropriate

RESULTS AND DISCUSSION

Teachers' concerns about the use of pair work in TSA

The SoCQ Quick Scoring Device (Hall, George and Rutherford, 1977) was used to determine the composite Stages of Concern Profile for the sample. Each of the seven-stages of concern was represented by five statements. The raw score for each scale was the sum of the five statements for that scale. These were then converted to percentile scores provided in a table. One way to interpret the concerns profile is to look for peaks (which indicate intense concerns for the stage) and valleys (which indicate little or no concern for the stage) (Hall and Hord, 2001). Figure 1 shows the profile of the sample. Table 2 shows the percentiles for each stage of concern.

Figure 1
Stages of Concern
Profile for the Study
Sample

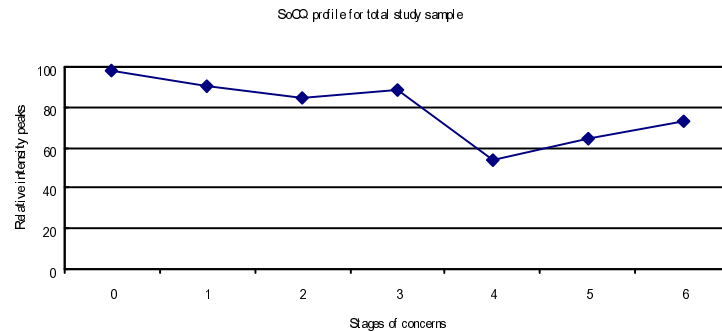


Table 2 Percentiles for Each of the Stages of Concern

Stage	0	1	2	3	4	5	6
Percentile	98	90	85	88	54	64	73

An examination of the data shows high scores in the first four stages (scores are considered high when they are in the 75th percentile or above). *Stages 0 (Awareness)* is the highest at 98%, followed by *Stage 1 (Information)* at 90%. There is a two percentile difference between *Stage 1 (90%)* and *Stage 3 (Management)* (88%), and a three percentile difference between *Stage 2 (Personal)* (85%) and *Stage 3 (88%)*. *Stages 1, 2 and 3* were all within five percentile points followed by a sudden drop in relative intensity for *Stage 4 (Consequences)*. The intensity of concerns increased for *Stage 5 (Collaboration)* and *Stage 6 (Refocusing)* but not to the same degree as the first four stages.

Figure 1 suggests a ‘nonuser’ profile characterized by Hall, George and Rutherford (1977). Nonusers typically show the highest concerns in *Stages 0, 1 and 2* and lower concerns in *Stages 4, 5 and 6*.

Table 3
Mean Scores for Each of the Stages of Concern

Stage No.	Stage of Concern	<i>M</i>	<i>SD</i>
0	Awareness	4.08	.67
1	Information	4.96	.75
2	Personal	5.06	.76
3	Management	4.76	.84
4	Consequences	4.99	.76
5	Collaboration	4.72	.92
6	Refocusing	4.49	.77

p < .05

While pair work has been outlined in the policy documents, it has not been formally introduced in TSA. This may account for the high scores for *Stage 0* which indicates participants generally place a low degree of priority on the innovation in comparison to other activities.

Scores that are high in Stage 0 are also typically high for *Stages 1* and 2. According to concerns theory, teachers are likely to have some kinds of self-concerns prior to the implementation of an innovation (Hall and Hord, 2001). Their concerns are centred on obtaining information about the innovation such as the design of the assessment and resources available (*Stage 1*) and how their teaching and time commitments will change as a result of the innovation (*Stage 2*).

Management concerns in this profile were at the same level of intensity as *Stage 1* & 2 concerns. Since its launch three years ago, TSA continues to exert a powerful influence on classroom practices through external testing to monitor student performances. Therefore, introducing a new format to the existing innovation will elevate task concerns. However, TSA results do not report individual scores of student performances which may explain why concerns regarding student consequences (*Stage 4*) are of lower intensity than collaboration concerns (*Stage 5*). For top-down centralized projects such as TSA, teachers have a strong need to collaborate with peers and experts to implement change.

According to Hall, George and Rutherford (1977), high scores in the *Stages 1* and 2 coupled with a tailing up in *Stage 6 (Refocusing)* represents potential resistance to the innovation. These profiles suggest teachers have strongly held ideas about how things ought to be different and may want the innovation changed or replaced (Hall, George and Rutherford, 1977). Resistance to the innovation is often due to the lack of information about the innovation which breeds distrust among potential adopters.

Table 4
Age and Teaching Experiences with Significant Differences in the Refocusing Stage

Independent Variable	<i>M</i>	<i>SD</i>	<i>n</i>
<i>Age</i>			
20 – 26	4.44	1.17	13
27 – 32	4.64	0.75	135
33 – 39	4.48	0.69	97
40+	4.36	0.76	125
<i>Teaching Experience</i>			
1 – 5 years	4.53	.86	68
6 – 10 years	4.66	.79	131
11 – 15 years	4.29	.70	94
16 years or above	4.43	.65	82

Results from a one-way analyses of variance (ANOVA) indicated that participants' age and teaching experience had a significant influence on *Stage 6 (Refocusing)*. Participants aged between 27 – 32 showed a significantly higher concern $F=2.971$, $p<.05$ than their cohorts. Teachers who had 6 – 10 years of teaching experience also were more concerned about refocusing the innovation $F=4.672$, $p<.005$ than their peers (see Table4).

In this study, teachers who have the most intense concerns in Stage 6 tend to be teachers who are younger and have less teaching experience.

Another set of ANOVA tests identified participants' experience as an Oral Examiner had a significant influence on *Stages 4 (Consequences)* and *Stage 5 (Collaboration)* ($p < .05$). The significant relationships found are summarized in Table 5.

Table 5
Mean and Standard Deviations of Novice and Experienced Oral Examiners' SoCQ Scores with Significant Differences for Receptivity to Pair Work in TSA

	Novice(n= 345)		Experienced (n = 29)			
Subscales	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p-value</i>
Consequences	5.02	.73	4.71	1.01	4.509	<.05
Collaboration	4.77	.90	4.16	.87	12.384	<.005

Oral Examiners who were familiar with the oral assessment procedures and had previously conducted the assessment were less concerned about the impact on students or the need to work with other teachers. In contrast, novice teachers had a greater concern for student consequences and were more willing to collaborate with other teachers.

Results of Items on Self-Efficacy

Teachers' self-efficacy (beliefs about their own effectiveness) not only influence instructional practices and classroom behaviour but also students' achievement (Soodak and Podell, 1997). Table 6 summarizes the mean scores for the items which questioned teachers on their self-efficacy towards pair work.

Table 6
Mean and Standard Deviations of SoCQ Scores for on Self-Efficacy

Item No.	Statement	<i>M</i>	<i>SD</i>	<i>n</i>
1	I regularly use pair work in the classroom	4.61	1.19	375
5	I am confident that I can facilitate pair work effectively in the classroom	4.71	1.24	376
23	I am confident that I can help students perform well in pair work in TSA.	4.59	1.22	376
30	I am concerned how students will perform using pair work in TSA.	5.41	1.06	377
37	I am concerned that student who perform poorly in pair work in TSA will reflect on me as a teacher.	4.54	1.45	376

The results reveal that 46% of teachers said they regularly used pair work in the classroom; 54% said they were confident they could facilitate pair work effectively in the

classroom, and 47% were confident that they could help their students perform well in pair work in TSA. However, 76% were concerned about the outcome of students performances in TSA which suggests that teachers were still not ready to adopt pair work in TSA.

Responses to Open-ended Question

Section B of the questionnaire asked teachers to comment on pair work in TSA. Less than 1% of respondents responded to this section. Follow-up interviews were in progress to collect further data.

CONCLUSION AND RECOMMENDATIONS

The Stages of Concern Questionnaire and Profile indicate that primary school teachers in Hong Kong are generally lacking information regarding the use of pair work in TSA. This is likely one source of resistance teachers have towards the innovation. If teachers, in particular to younger teachers or teachers with less than 10 years of experience, can be persuaded of the innovation's value, they may begin to move towards making a preliminary decision to adopt the innovation. Findings further suggest that less than 50% of teachers regularly facilitate pair work in their classroom while more than 75% are concerned about how students will perform using pair work in an assessment situation. More training in communicative teaching practices could develop teachers' proficiency and confidence in using pair work both in the classroom and in TSA.

This study is a first step in assessing teachers' perceptions of the use of pair work in TSA. The knowledge of teachers' concerns prior to implementation of an innovation can help change facilitators identify teachers' readiness. Intervention strategies that take into consideration the needs and concerns of teachers will increase the likelihood that resources directed towards an innovation will lead to successful implementation and integration.

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Appendix 1

Hall et al.'s Seven Stages of Concern (1977)

- *Stage 0 - Awareness:* Teachers have little knowledge of the innovation and have no interest in taking any action.
- *Stage 1 - Informational:* Teachers express concerns regarding the nature of the innovation and the requirement for its implementation. At this stage, teachers usually show their willingness to learn more about the specific innovation or reform.
- *Stage 2 - Personal:* Teachers focus on the impact the innovation will have on them. At this point, they exhibit concerns about how the use of the innovation will affect them on a personal level. They may be concerned about their own time limitations and the changes they will be expected to make.
- *Stage 3 - Management:* Concerns begin to concentrate on methods for managing the innovation within the classroom. Teachers now express concern over the organization and details of implementation, and the overcoming of difficulties. Time requirements are among the prime management factors, which create skepticism on the part of teachers in relation to the adoption of innovations.
- *Stage 4 - Consequences:* Teacher concerns now centre upon effects on students learning. If positive effects are observed, teachers are likely to continue to work for the implementation.
- *Stage 5 Collaboration:* Teachers are interested in relating what they are doing to what their colleagues are doing.
- *Stage 6 - Refocusing:* Teachers evaluate the innovation and make suggestions for continued improvement or consider alternate ideas that would work even better.

Appendix 2

Reliability Estimates for SoCQ

Scale/item	M	SD
Stage 0 – Awareness ($\alpha=.15$)		
4 Do not know that pair work might be introduced in TSA*	4.08	1.64
14 Not concerned about pair work in TSA	3.01	1.40
25 Occupied with other things	4.43	1.11
27 Do not know the rationale behind pair work in TSA*	5.03	1.24
35 Not interested in learning about pair work in TSA	3.93	2.51
Stage 1 – Informational ($\alpha=.60$)		
7 Limited knowledge about conducting pair work in TSA	4.23	1.47
17 Discuss the possibility of using pair work in TSA	4.49	1.22
18 What resources are available if pair work is implemented in TSA	5.54	1.17
31 What is required for pair work in TSA*	5.43	1.07
41 How adding pair work to TSA will be better than what we have now	5.08	1.11

Scale/item	M	SD
Stage 2 – Personal ($\alpha=.61$)		
8 Pair work in TSA will enhance my professional development*	4.34	1.30
15 Who could offer me assistance*	5.47	1.21
20 How teaching/classroom management will change	5.21	1.25
33 Time and energy commitments	5.14	1.16
39 How my role will change	5.14	1.10
Stage 3 – Management ($\alpha=.66$)		
9 Not having enough time to prepare students	5.31	1.33
10 Conflict between interests and responsibility	4.14	1.34
19 Inability to manage	4.22	1.36
29 Time spent on nonacademic matters	5.16	1.17
40 Coordination of tasks and people	4.96	1.25
Stage 4 – Consequence ($\alpha=.60$)		
2 Students' attitudes	4.92	1.19
13 How pair work in TSA will affect students	5.37	1.19
22 My impact on students' performances *	5.24	1.10
28 Will increase students' motivation to speak English*	4.57	1.45
38 Use feedback from students to determine if pair work should be used in TSA	4.91	1.15
Stage 5 – Collaboration ($\alpha=.78$)		
6 To help teachers prepare for pair work in TSA*	4.25	1.39
12 To develop working relationships with other teachers in preparing for pair work in TSA	4.62	1.37
21 To familiarize other teachers with the new developments of pair work in TSA	4.84	1.15
32 To coordinate my efforts with others to prepare for pair work in TSA	4.69	1.17
34 To know how other teachers are preparing for pair work in TSA	5.20	1.16
Stage 6 – Refocusing ($\alpha=.61$)		
3 Other approaches that might work better	4.42	1.24
11 Take part in consultations before pair work is adopted in TSA*	4.57	1.43
24 Provide input into the design of pair work in TSA	4.16	1.29
26 Modify the conduct of pair work in TSA based on students' experiences	4.48	1.03
36 Determine how to supplement, enhance or replace pair work in TSA	4.82	1.10

(N=377)

7-point Likert scale

*Wording of items modified