



**Territory-wide System Survey on the
Capabilities and Attributes expected of
Novice Teachers and School Leaders, and
the Continuing Professional Development
of Teachers and School Leaders**

Executive Summary

**Commissioned by
Education Bureau**

**Conducted by
Policy 21**

I. Introduction and Survey Methodology

Background

The Committee on Professional Development of Teachers and Principals (COTAP) has been reconstituted from the former Advisory Committee on Teacher Education and Qualifications (ACTEQ) in June 2013 to better reflect its functions of enhancing the professional development of teachers and principals at different stages of their professional growth. To promote a reflective culture and the wider use of evidence and data in the school sector to inform policy and strategy formulation and decision-making, COTAP considers it necessary to commission a territory-wide system survey to obtain empirical data and analysis on the capabilities and attributes expected of novice teachers, teachers and school leaders as well as their continuing professional development (CPD).

The survey results would provide useful information and indicators for informing COTAP's recommendations on curricula and implementation of initial teacher education (ITE) and CPD of teachers and school leaders.

Objectives

The objectives of the study are as follows:

- i. To find out the perceptions and expectations of teachers and school leaders on the competencies and attributes required for performing their duties;
- ii. To find out the perceptions and expectations of novice teachers, mentors, and school leaders on the competencies and attributes of novice teachers.
- iii. To find out the perceptions and expectations of SSB on the competencies and attributes of school leaders.
- iv. To find out the perceived effectiveness of various modes of Professional Development Programmes by teachers and school leaders.
- v. To find out the professional development needs and obstacles of teachers and school leaders.

Methodology

The phases of the study are as follows:

The survey was conducted in four phases – 1. Pre-survey Interviews, 2. Pilot Survey, 3. Main Survey and 4. Post-Survey Interviews. Quantitative data collected in the survey was triangulated with qualitative data collected in the interview to provide comprehensive results.

- i. Phase one: Pre-survey Interviews
To formulate the questionnaires, four pre-survey interviews were conducted to collect school leaders' and SSB representative's views on competencies and attributes of teachers. In this phase, three principals and one SSB representative were interviewed individually.
- ii. Phase two: Pilot Survey
After the pre-survey interviews, a pilot survey was conducted in May and June 2015 to develop the questionnaires and data collection method. In this phase, one primary school, one secondary school and one special school took part in the pilot survey. A total of 80 valid questionnaires were collected.

iii. Phase three: Main Survey

The main survey was conducted from June to August 2015. Structured questionnaires were used in the survey to gather quantitative data with stratified random sampling by levels and districts of schools. A total of 124 schools have joined the main survey, including 55 primary schools, 57 secondary schools and 12 special schools. All teachers and school leaders in sampled schools were fully enumerated. In this phase, a total of 4161 valid questionnaires were returned.

iv. Phase four: Post-Survey Interviews

To understand the underlying reasons of discrepancies between views of different groups found in the Main Survey, two interviews with school leaders and two focus group meetings with teachers were conducted between January and February 2016.

Survey Data Collection

The following five categories of respondents were targeted in the Study:

i. Novice teachers

Novice teachers in the Study refer to full-time teachers, including contract teachers, with no more than three years of full-time teaching experience in their present schools and other schools.

ii. Mentors of novice teachers (mentors)

Mentors in the Study refer to teachers with more than three years of experience and were responsible for mentoring novice teachers in the past three years.

iii. Other experienced teachers who are not mentors (other teachers)

Other experienced teachers (or other teachers) in the Study refer to teachers with more than three years of experience and had not taken up a role as mentor in the past three years.

iv. School leaders

School leaders in the Study refers to principals and vice principals of schools.

v. SSB representatives

All SSB operating more than five local primary, secondary or special schools were covered in the survey. SSB representatives were invited to provide their views on school leaders from one randomly selected primary and / or secondary school.

Figure 1: Number of questionnaires collected by types of schools

	Primary	Secondary	Special	Total
School Leader	128	112	20	260
Novice Teacher	194	101	55	350
Mentor	135	63	46	244
Other Teacher	1412	1657	201	3270
SSB representatives				37
Total	1689	1933	322	4161

Questionnaire design

Structured questionnaires were used to collect data. In the Study, five sets of questionnaires were designed for novice teachers (NT), mentors (MT), other experienced teachers (OT), school leaders (SL), and SSB representatives (SSB).

The survey covered the following aspects:

1. Background information
2. NT, MT, OT and SL's competencies
3. Induction programme and support for NT
4. School leaders' perception on differences in abilities of teachers
5. CPD needs of NT, MT, OT and SL

Different sample groups were asked to provide their views on different aspects in their set of questionnaires. Some questions were designed to compare the views of different stakeholders on the same aspect. Aspects included in different sets of questionnaires are shown in Figure 2:

Figure 2: Questionnaire design

	Questionnaire set				
	(NT)	(MT)	(OT)	(SL)	(SSB)
Background information	✓	✓	✓	✓	
Satisfaction on novice teachers' competencies and attributes	✓	✓		✓	
Priority of CPD activities for novice teachers	✓	✓		✓	
Effectiveness of induction and support	✓	✓		✓	
Effectiveness of ITE	✓				
Difference in abilities of novice teachers				✓	
Satisfaction on teachers' competencies and attributes		✓	✓	✓	
Importance of teachers' competencies and attributes	✓	✓	✓	✓	
Priority of CPD activities for teachers		✓	✓	✓	
Difference in abilities of teachers				✓	
Satisfaction on school leaders' competencies and attributes				✓	✓
Effectiveness of different mode of CPD activities	✓	✓	✓	✓	
CPD hours in the recent two years	✓	✓	✓	✓	
Priority of CPD activities for school leaders				✓	✓
Obstacles in pursuing of CPD	✓	✓	✓	✓	

II. Summary of Key Findings

Age

The median age of novice teachers, mentors, other teachers and school leaders were 26.6 years old, 39.6 years old, 39.4 years old and 51.1 years old respectively. Distribution of age among novice teachers, mentors, other teachers and school leaders was shown below (Figure 3):

Figure 3: Distribution of age among novice teachers, mentors, other teachers and school leaders (%)

	aged 25 or below	aged 26-30	aged 31-35	aged 36-40	aged 41-45	aged 46-50	aged 51-55	aged 56 or over	no response
Novice teachers	31.1	58.0	7.1	1.7	0.6				1.4
Mentors	0.0	5.7	19.7	26.6	16.8	16.0	6.6	5.7	2.9
Other teachers	0.4	12.1	19.8	19.9	18.1	11.0	8.2	4.2	6.4
School leaders			1.5	5.0	14.2	22.3	31.5	23.8	1.5

Note. The numbers may not add up to 100% in the total due to rounding.

Years of experience

For school principals and vice principals, they have been working in their current position for an average of 7.7 and 5.9 years respectively in their present schools. For novice teachers, they have been working in their present schools for 1.2 years on average and 57.4% of them were beginning teachers with no more than one year of experience. For mentors, they have been working in their present schools for 13.8 years, 3.3 years of which as mentors. For other teachers, they have been working on average for 11.8 years in their present schools.

Views on Novice Teachers' Competencies and Attributes, Adequacy of Initial Teacher Education (ITE) and CPD for Novice Teachers

Questions were designed to look into (i) novice teachers' satisfaction with their own competencies and attributes as well as mentors' and school leaders' satisfaction with novice teachers' competencies and attributes, (ii) evaluation of ITE programmes from novice teachers' perspective, and (iii) views on CPD for novice teachers (including induction and support).

(i) Satisfaction on novice teachers' competencies and attributes

In general, as shown in Figure 5, novice teachers, mentors and school leaders were quite satisfied with novice teachers' competencies and attributes as listed. The mean score of satisfaction on all 38 items were 6 or above on a Likert scale of 10 by all three groups. The mean scores of novice teachers' satisfaction on their own competencies and attributes ranged from 8.294 to 6.686, while that of mentors' satisfaction on novice teachers' competencies and attributes was from 7.813 to 6.731 and school leaders' from 7.704 to 6.108. When comparing novice teachers' ratings with those of mentors and school leaders, it is worth noting that novice teachers showed a significantly¹ higher level of satisfaction on almost all items than their mentors did, although the average difference was not big (less than 0.6). The difference between novice teachers' and

¹ In the Study, significance level was set at 0.05.

school leaders' views was slightly bigger (0.7 or less).

Despite the above difference between the three groups of respondents, items that received the highest level of satisfaction among all three groups were – “Upholding professional ethics and integrity and making positive influence on students as a role model”, “Building rapport and harmonious relationship with students” and “Participation in cultivating a caring and inclusive school culture”. This showed that all three groups were most satisfied with these competencies and attributes of novice teachers.

Competencies and attributes of novice teachers given the lowest mean scores by all three groups of respondents were “Participation in education-related community services and voluntary work”, “Understanding of education policies and abilities to respond and support” and “Involvement in development of education policies and education research”. These were considered to be among the least satisfactory competencies and attributes by novice teachers themselves, mentors and school leaders.

Novice teachers’ professional ethics and dedication of education

Although attributes such as “Upholding professional ethics and integrity and making positive influence on students as a role model” was given a high level of satisfaction by novice teachers, mentors, and school leaders, there was a significant difference between novice teachers’ satisfaction with themselves and school leaders’ satisfaction with novice teachers. School leaders’ and mentors’ satisfaction on this aspect was significantly lower than that of novice teachers. Similar finding was also found in aspects like “Dedication to education and teaching and making contribution to the sector”, and “Understanding the role, responsibilities, professional code and social expectations of a teacher”. This may imply that for novice teachers’ professional role, school leaders and mentors were not as satisfied as novice teachers themselves.

Novice teachers’ competencies in helping students develop 21st century skills

In addition to the above observations, the result showed that satisfaction with “Helping students develop critical thinking skills”, “Helping students become self-directed learners” and “Helping students develop creative thinking skills” were rated relatively low across novice teachers, mentors and school leaders (with a mean score between 6.752 and 7.323). It shows that compared to other competencies, novice teachers are not satisfied in these aspects.

Figure 5: Satisfaction on novice teachers’ competencies and attributes, novice teachers’ perceived importance of competencies and adequacy of ITE

Competencies and Attributes of Novice Teachers	Satisfaction on NT			NT-IMP	NT-ITE
	NT	MT	SL		
Most satisfactory aspects					
Upholding professional ethics and integrity and making positive influence on students as a role model	8.294	7.740	7.542	8.991	7.968
Dedication to education and teaching and making contribution to the sector	8.214	7.651	7.532	8.960	7.869
Believing in students’ potential for development and ability to learn	8.129	7.532	7.458	8.699	7.569
Building rapport and harmonious relationship with students	8.123	7.774	7.594	8.844	7.530
Participation in cultivating a caring and inclusive school culture	8.063	7.813	7.704	8.688	7.173

Mastery of subject knowledge	7.954	7.773	7.616	8.908	7.928
Peer collaboration in enhancing the effectiveness of learning and teaching	7.923	7.766	7.663	8.633	7.115
Least satisfactory aspects					
Involvement in development of education policies and education research	6.686	6.731	6.108	7.968	6.778
Understanding of education policies and abilities to respond and support	6.911	6.847	6.323	8.104	6.941
Participation in education-related community services and voluntary work	7.131	6.821	6.478	7.887	6.866
Helping students develop creative thinking skills	7.183	7.085	6.798	8.581	7.023
Helping students become self-directed learners	7.140	7.077	6.833	8.656	7.088
Mastery of student counselling skills	7.203	7.043	6.882	8.590	7.046
Helping students develop critical thinking skills	7.323	6.991	6.752	8.691	7.123
<p>Note:</p> <p>(1) NT = novice teacher, M = mentor, SL=school leader, NT-IMP = novice teachers' perceived importance of teachers' competencies and attributes, NT-ITE = novice teachers' perceived sufficiency of initial teacher education.</p> <p>(2) Only competencies and attributes with the highest and lowest mean score of satisfaction were listed. Other competencies and attributes were not shown in the table.</p> <p>(3) For views on ITE, only views from novice teachers with teaching qualification were included.</p> <p>(4) 10-point Likert scale was used. A higher score indicates a higher level of satisfaction/importance/adequacy.</p>					

(ii) Evaluation of ITE programmers from novice teachers' perspective

Novice teachers who hold qualifications in education were asked to evaluate the adequacy of ITE programmers, in terms of the competencies and attributes expected of novice teachers.

In general, primary school teachers were more satisfied with their ITE programmers in all 38 items than their counterparts in secondary schools, particularly in the following items, with a mean score difference of at least 0.5 point higher:

1. Establishing communication and trust with parents to foster home-school collaboration
2. Responsiveness to societal changes and resultant issues on social values
3. Language proficiency and mastery of the medium of instruction
4. Supporting students' diverse needs

Nevertheless, the two groups ranked aspects "Understanding of education policies and abilities to respond and support" and "Helping students become self-directed learners" among the lowest 10 items on adequacy of ITE but, at the same time, regarded them as quite important (as shown by average ratings above 8). It may imply that novice teachers might consider the ITE they received was relatively not adequate in those aspects.

(iii) Views on CPD for novice teachers (including induction and support)

Survey results showed that more than 90% of schools provided induction support for novice teachers. Figure 6 shows the effectiveness of induction and support as perceived by novice teachers, mentors and school leaders.

Figure 6: Perceived effectiveness of induction and support for novice teachers

	NT	MT	SL
Provision of guidance in various forms by teachers teaching the same grade or subject (e.g. lesson observation, collaborative lesson planning, co-teaching, etc.)	3.363	3.363	3.328
Assigning senior teachers as mentors	3.301	3.326	3.273
Sharing of experience by team leaders (e.g. discipline master) and provision of all necessary assistance	3.190	3.205	3.218
Orientation programme organised by school	3.037	3.047	3.105
Suitably reducing the teaching load and workload of novice teachers	2.985	2.804	2.678
Induction sessions for sharing subject knowledge organised by subject-related societies	2.979	2.975	2.843
Induction session on school vision and mission organised by the school sponsoring body (SSB)	2.914	2.793	2.831
Induction Courses for New Teachers jointly organised by the EDB and Hong Kong Teachers' Centre	2.824	2.681	2.687
Note: 4-point Likert scale was used. A higher score indicates a higher level of perception on the effectiveness.			

Induction and support for novice teachers

Novice teachers, mentors and school leaders considered that “provision of guidance in various forms by teachers teaching the same grade or subject”, “assigning senior teachers as mentors” and “sharing of experience by team leaders (e.g. discipline master) and provision of all necessary assistance” were the most effective means of induction support.

One notable difference between the views of novice teachers and those of mentors and school leaders is “suitably reducing the duty and workload of novice teachers”, which was considered quite effective (2.985 on a Likert scale of 4) by novice teachers but not so by mentors (2.804) and school leaders (2.678).

Comparing to school-based induction support, pull-out support programmes were perceived as less effective. This may be because school-based induction support was more likely to help novice teachers adapt to school environment and tackle specific problems in their school contexts with hands-on practice.

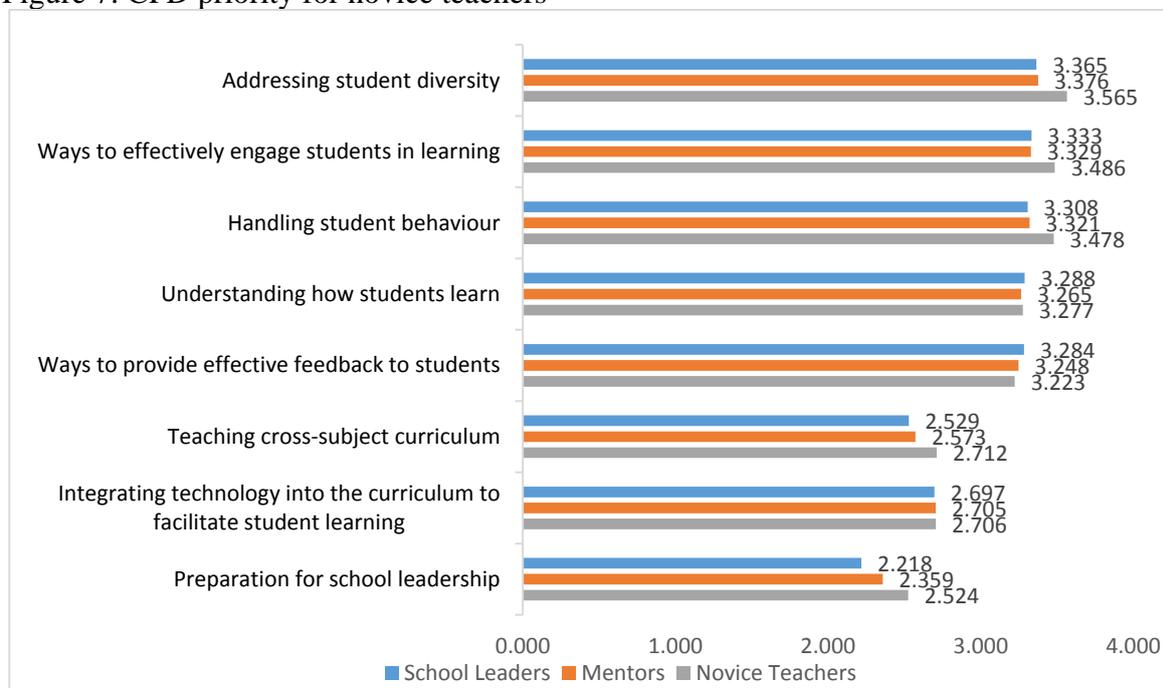
CPD priority for Novice Teachers

When planning CPD activities for novice teachers, among the 19 options, the five top priorities for CPD as rated by novice teachers, mentors, and school leaders were “Addressing student diversity”, “Ways to effectively engage students in learning”, “Handling student behaviour”, “Understanding how students learn” and “Ways to provide effective feedback to students”.

“Integrating technology into the curriculum to facilitate student learning”, “Teaching cross-subject curriculum” and “Preparation for school leadership” were accorded the

lowest priorities by all three groups. However, it may be worth noting that novice teachers accorded a significantly higher priority to “Integrated education” (3.104) than mentors and school leaders did (2.688 and 2.712 respectively). In contrast, mentors and school leaders attached a greater priority to “professional ethics” (3.184 and 3.139 respectively) than novice teachers did (2.764).

Figure 7: CPD priority for novice teachers



Note: 4-point Likert scale is used. A higher score indicates a higher level of priority

Mentors and Other Teachers’ Competencies and Attributes and CPD

(i) Views on teachers’ competencies and attributes

Mentors, other teachers and school leaders were asked to indicate their level of satisfaction on the competencies and attributes of teachers. Most of the 38 items on competencies and attributes received a rating of 7 or above on a Likert scale of 10 from teachers and school leaders, showing that teachers and school leaders were in general satisfied with their competencies and attributes.

Although teachers’ self-satisfaction was generally higher than the level of school leaders’ satisfaction with teachers, their views did not differ as much as between novice teachers and school leaders. The biggest discrepancies between views of teachers and school leaders were related to competencies and attributes of “Soliciting and analysing others’ opinions to seek improvement through reflection”, “Planning of personal professional development to enhance professional competencies” and “Dedication to education and teaching and making contribution to the sector”.

Figure 8: Mentors' and other teachers' satisfaction on their own competencies and attributes; School leaders' satisfaction on teachers' competencies and attributes

Competencies and Attributes of Teachers	Satisfaction on Teachers		
	MT	OT	SL
Most satisfactory aspects			
Upholding professional ethics and integrity and making positive influence on students as a role model	8.615	8.415	7.977
Peer collaboration in enhancing the effectiveness of learning and teaching	8.473	8.104	8.043
Building rapport and harmonious relationship with students	8.448	8.290	8.160
Mastery of subject knowledge	8.444	8.401	8.078
Dedication to education and teaching and making contribution to the sector	8.444	8.217	7.773
Participation in cultivating a caring and inclusive school culture	8.439	8.122	8.241
Implementation of school policies to realise the school's vision and mission	8.416	7.974	7.930
Mastery of subject pedagogical knowledge	8.402	8.332	7.938
Sharing of knowledge and experiences to support and contribute to teachers' professional development	8.269	7.823	7.565
Least satisfactory aspects			
Participation in education-related community services and voluntary work	7.433	7.089	6.794
Involvement in development of education policies and education research	7.546	6.976	6.786
Helping students develop creative thinking skills	7.745	7.498	7.179
Understanding of education policies and abilities to respond and support	7.795	7.317	7.140
Helping students become self-directed learner	7.887	7.568	7.304
Helping students develop critical thinking skills	7.904	7.672	7.325
Supporting students' diverse learning experiences	7.904	7.785	7.833
Responsiveness to societal changes and resultant issues on social values	7.908	7.719	7.441
Soliciting and analysing others' opinions to seek improvement through reflection	8.167	7.832	7.296
Note: (1) OT = other teachers, MT = mentors, SL=school leaders. (2) Only competencies and attributes with the highest and lowest mean score were listed. Other competencies and attributes were not shown in the table.			

Mentors' satisfaction on their own competencies and attributes

Compared to other teachers, mentors were more satisfied with their own competencies and attributes in general, showing ratings between 8.615 and 7.433, compared to other teachers' satisfaction with their own competencies and attributes, with ratings between 8.415 and 6.976. Mentors were also more satisfied with specific competencies and attributes that are relevant to their roles as mentors. For example, their satisfaction on

“Peer collaboration in enhancing the effectiveness of learning and teaching” and “Sharing of knowledge and experiences to support and contribute to teachers' professional development” was significantly higher than that of other teachers.

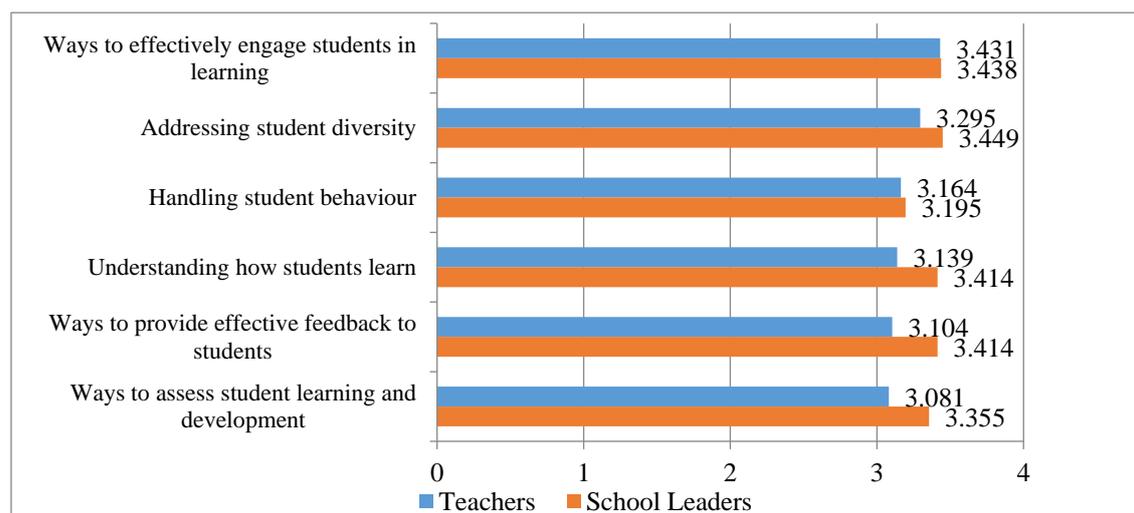
Least satisfactory competencies and attributes

In terms of the least satisfactory aspects, mentors and other teachers had the same six least satisfactory competencies and attributes. School leaders’ views were also very similar, with only one additional item “Soliciting and analysing others' opinions to seek improvement through reflection”.

(ii) CPD for teachers

Experienced teachers (including mentors and other teachers) and school leaders have the same priorities in identifying CPD for teachers. Except for the item “Handling student behaviour”, which was among the top five priorities as viewed by teachers only, the two groups had listed the same items as the top CPD priorities for teachers as shown in Figure 9.

Figure 9: CPD priority for teachers



Note: 4-point Likert scale is used. A higher score indicates a higher level of priority

School leaders’ Competencies and Attributes and CPD

(i) Views on Principals’ competencies and attributes

Principals and SSB representatives were asked to indicate their satisfaction with principals’ competencies and attributes. Both principals and SSB representatives were most satisfied with principals’ attribute of “Upholding professional ethics and integrity and making positive influence on students as a role model” and “Dedication to education and teaching and making contribution to the sector” as shown in Figure 10. SSB representatives were more satisfied with principals’ competencies of “Identification with the SSB’s vision and mission” than principals themselves.

Figure 10: Principals' satisfaction with their own competencies and attributes; SSB' satisfaction with principals' competencies and attributes

Competencies and Attributes of Principal	Satisfaction to Principal	
	Principal	SSB
Most satisfactory aspects		
Upholding professional ethics and integrity and making positive influence on students as a role model	3.698	3.676
Identification with the SSB's vision and mission	3.674	3.892
Dedication to education and teaching and making contribution to the sector	3.593	3.622
Concern for students' well-being and provision of pastoral care	3.605	3.595
Maintaining a harmonious working environment and atmosphere	3.419	3.351
Least satisfactory aspects		
Knowledge of education-related legislation	3.035	3.194
Stress management, time management and maintaining physical and mental well being	3.093	3.189
Implementing a staff appraisal system that promotes development and accountability	2.953	3.081
Planning and steering curriculum development	2.965	3.162
Making decisions based on assessment of data to enhance teaching quality	2.988	3.108
Note: (1) OT = other teachers, MT = mentors, SL=school leaders. (2) Only competencies and attributes with the highest and lowest mean score were listed. Other competencies and attributes were not shown in the table.		

However, both principals and SSB representatives considered that school leaders did not perform as well in implementing a staff appraisal system to promote development of teachers. They were also less satisfied with making decisions based on assessment of data to enhance teaching quality. In addition, SSB representatives and vice principals were less satisfied with vice principals' legal knowledge related to education ("Knowledge of education-related legislation").

(ii) School leaders' CPD

Both SSB representatives and school leaders accorded highest priority to CPD on "Strategies and measures to enhance teaching quality". Among other priorities agreed upon by both groups were "Strategies and measures to promote and encourage the professional development of teachers" and "Strategies and measures to enhance human resources management". School leaders gave a lower priority to the CPD activity on "Strategies and measures to enhance collaboration between the school and the community". In addition, the CPD activity on "Strategies and measures to promote home-school co-operation" was given a lower priority by both SSB representatives and school leaders.

Participation in and views on CPD activities

(i) Participation in CPD activities

The median number of hours taking part in CPD activities for novice teachers, mentors, other teachers and school leaders was shown in Figure 11. Among the responding novice teachers, in 2013 to 2014, 39.1 % were not yet full-time teachers, while for the rest of them, the median number of hours taking part in CPD activities was 37.0.

Figure 11: Median number of hours of CPD activities by novice teachers, mentors, other teachers and school leaders

	academic year 2013-14	academic year 2014-15
novice teachers	37 hours	40.8 hours
mentors	60 hours	61.6 hours
other teachers	48.9 hours	49.4 hours
school leaders	74.7 hours	73.9 hours

(ii) Effectiveness of CPD activities

“School’s Teacher Professional Development Day”, “Lesson observation and evaluation” and “Workshops” were considered most effective CPD activities by novice teachers, mentors, and other teachers as well as school leaders as shown in Figure 12.

Figure 12: Effectiveness of CPD activities viewed by novice teachers, mentors, other teachers and school leaders

	NT	MT	OT	SL
School’s Teacher Professional Development Day	2.955	3.097	2.901	3.163
Lesson observation and evaluation	3.294	3.259	2.973	3.347
workshops	3.007	3.081	2.923	3.076
conferences	2.888	2.969	2.82	2.996
local school visits	2.831	2.931	2.797	2.979
learning circle	2.830	2.830	2.719	2.838
seminars	2.819	2.898	2.808	2.984
e-learning	2.805	2.797	2.668	2.729
mixed-mode learning	2.796	2.824	2.766	2.699
school visits in mainland China	2.681	2.591	2.494	2.653
conduct educational research/action research	2.673	2.716	2.628	2.728
Writing academic journals/reports	2.576	2.597	2.419	2.511
international conferences	2.362	2.675	2.409	2.426

Note: 4-point Likert scale was used. Average scores were shown in the table. A higher score indicates a higher level of effectiveness.

(iii) Obstacles in participating in CPD activities

The most frequently encountered obstacles when pursuing CPD for novice teachers, mentors, other teachers and school leaders was “Difficulty in finding time for CPD due to heavy workload”. Besides that, “Undesirable timing for the conduct of courses” and “Undesirable venues for the conduct of courses” were also cited as frequent obstacles. For other teachers and school leaders, they also encountered “Difficulty in finding time for CPD due to heavy family commitment”.

Figure 13 shows obstacles in participating CPD activities that the matter of time was the major obstacle among novice teachers, mentors, other teachers and school leaders to pursue continuing professional development.

Figure 13: Obstacles in participating in CPD activities

	NT	MT	OT	SL
Difficulty in finding time for CPD due to heavy workload	3.101	3.435	3.425	3.188
Undesirable timing for the conduct of courses	2.641	2.739	2.247	2.103
Undesirable venues for the conduct of courses	2.391	2.536	2.224	2.068
Difficulty in finding time for CPD due to heavy family commitment	2.301	3.013	2.736	2.463
Expensive charges of suitable courses	2.277	2.343	2.239	2.063
Lack of places for suitable courses	2.152	2.218	2.351	2.099
Absence of suitable courses	2.105	2.272	2.982	2.473
Undesirable quality of most courses	1.982	2.153	2.300	2.032
Inadequate support for CPD from the incorporated management committee / school management committee	1.845	2.208	2.487	2.197

Note: 4-point Likert scale was used. Average scores were shown in the table. A higher score indicates a higher level of frequency.

III. Recommendations

ITE Programmes

Novice teachers considered that ITE programmes had prepared them well to become a teacher holistically. They reported all 38 items in the 4 domains with a mean score of 6.778 to 7.997 on a 10-point scale. Besides the positive responses from novice teachers in regard to ITE programmes, both mentors and school leaders reported their satisfaction on novice teachers' competencies, with mean scores no less than 6.100 in all 38 items. Despite the encouraging results, the followings are some recommendations related to ITE programmes in the light of data collected.

(i) *Develop ITE programmes with societal awareness*

Novice teachers reported that they were most adequately prepared upon completion of ITE programme in terms of professional values and ethics, such as “Upholding professional ethics and integrity and making positive influence on students as a role model” (with highest score 7.997), “dedication to education and teaching and making contribution to the sector” (with 3rd highest score 7.902) but least prepared in the professional relationships and services domain, such as “involvement in development of education policies and education research” (with lowest score 6.778), “participation in education-related community services and voluntary work” and “responsiveness to societal changes and resultant issues on social values” (both with 2nd lowest score 6.886). The above results showed that novice teachers are aware of the importance of connections between education sector and other sectors when studying ITE programmes. Education and teacher education should therefore connect with the society and cross-boundary competence is needed for both teachers and students. Therefore, ITE programmes may strengthen its connections with sectors beyond education and develop the programme with a stronger societal awareness.

(ii) *Balance between “teaching and learning” and “student development” domains*

Novice teachers reported that ITE programmers had prepared them better in the “teaching and learning” domain than the “student development” domain generally. This may be a result of an emphasis on classroom teaching and the component of teaching practicum/practices in ITE programme. In the survey, items related to “student development” such as “concern for students' whole-person development” (ranked 29th out of 38 items) and “encourage students to set a meaningful life goals” (ranked 26th out of 38 items) were ranked far lower than “mastery of subject knowledge” (ranked 2nd out of 38 items) and “mastery of subject pedagogical knowledge” (ranked 4th out of 38 items). With an increasing concern on values education and life planning in education², ITE programmers may strengthen its emphasis in teaching of whole-person development and strike a balance between the “teaching and learning” and “student development” domains.

(iii) *Nurture creative and self-directed learner*

Novice teachers perceived themselves as not so adequately prepared in nurturing students' creativity (ranked 32nd out of 38 items) and self-directedness (ranked 30th out of 38 items) upon completion of ITE programmers. Furthermore, novice teachers, mentors and school leaders in the Study all reported that the novice teachers were least

² Curriculum Development Council. (2015). *Ongoing renewal of the school curriculum—focusing, deepening and sustaining: An overview*. Hong Kong: Curriculum Development Council.

competent in helping students become creative and self-directed learners in the “student development” domain. These attributes are essential for teachers and students in the knowledge-based society and ever-changing world. With the promotion of STEM (Science, Technology, Engineering and Mathematics) education to unleashing potential in innovation³, creativity and self-directedness would be the utmost concerns in preparing our students to work in the 21st century.

Induction Programme

Novice teachers, mentors and school leaders perceived induction programmers to be effective in supporting novice teachers to begin their teaching career. All modes of induction programmers were given a mean score of 2.613 to 3.363 on a 4-point scale by all categories of respondents. From the pattern of perceived effectiveness of induction programmers reported, the followings are recommendations on how to further enhance induction programmers.

(i) Enhance peer-to-peer, individualized induction support

Novice teachers, mentors and school leaders all ranked peer-to-peer, individualized induction the most effective mode (ranked 1st out of 8) of support for novice teachers. Novice teachers preferred to be supported by peers instead of experienced teachers such as mentors (ranked 2nd out of 8) or panel heads (ranked 3rd out of 8). However, peer-to-peer induction support may raise the concern of unprofessional sharing among peers. Peers may solely share their own experiences without conceptualization or producing transferrable, useable knowledge for novice teachers. Therefore, training of instructional leaders should not be confined to middle managers only, but also for all teachers in the school to facilitate peer-to-peer induction support for novice teachers.

(ii) Increase the relevancy of pull-out induction programmers

Novice teachers and mentors ranked pull-out induction programmers the least effective to novice teachers, with the programme jointly organised by EDB and Hong Kong Teacher Centre ranked 8th out of 8 and the programme organised by SSB ranked 7th out of 8. As novice teachers perceived “addressing student diversity”, “way to effectively engage students in learning” and “handling student behavior” as their top 3 priorities in professional development, relevancy of induction support to novice teachers’ daily classroom practices would be important. Pull-out programmers may enhance the effectiveness by providing more real-life and concrete examples.

CPD Needs of Teachers and School Leaders

Teachers and school leaders all reported a commitment to CPD, with more than 64% of novice teachers, 88% of mentors, 68% of other teachers and 96% of school leaders taking part in more than 25 hours of CPD in 2014/2015 academic year. 13.1% of novice teachers, 16% of mentors, 10.5% of other teachers and 27.7% of school leaders completed more than 100 hours of CPD. To ensure that the amount of CPD hours spent can meet the needs of teachers and school leaders, the following recommendations are made to strengthen the effectiveness of these CPD opportunities.

³ Education Bureau. (2016). *Report on promotion of STEM education: Unleashing potential in innovation*. Hong Kong: Education Bureau.

(i) Utilize lesson observation and evaluation

Teachers and school leaders both reported “lesson observation and evaluation” as the most effective means of CPD (ranked 1st out of 13). The results would align with the increasing importance of lesson observation under the school self-evaluation mechanism. Teachers and school leaders both perceived lesson observation not only as an accountability measure but also an opportunity for professional development. Schools may incorporate more effective use of lesson observations into their teacher professional development plan to enhance the “teaching and learning” domain of CPD.

(ii) Make use of school-based CPD

Besides “lesson observation and evaluation”, teachers and school leaders perceived “school’s teacher professional development day” and “workshops” as the 2nd and 3rd most effective means of CPD. The result suggested that teachers and school leaders preferred school-based and tailored CPD programmes that can respond to their specific needs. The middle leaders or school leaders in charge of teacher professional development should be well-trained in developing a strategic, interdependent relationship between individual teachers’ professional development and school development. They should also understand the latest development of education issues and update the school-based CPD plan.

(iii) Relief the most important barrier (time) in CPD

Teachers and school leaders reported limited time as the biggest barrier when participating in CPD. Teachers and school leaders were fully occupied by their work, which limited their CPD opportunities. Schools may consider including teachers’ and school leaders’ participation in CPD into their work schedule to make room for professional development. The building of a strong collaborative culture within the school through professional learning communities and promotion of new types and modes of CPD may also meet teachers’ training needs and address their difficulties encountered at the same time.