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Teachers' Beliefs and Practices for Nurturing Creativity in Students: Perspectives from Teachers of Gifted Students in Hong Kong

Serene Chan and Mantak Yuen

Centre for Advancement of Inclusive and Special Education, University of Hong Kong, Hong Kong, China

(5142 words including References and Tables)

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Corresponding author: Mantak Yuen, Centre for Advancement of Inclusive and Special Education, Faculty of Education, University of Hong Kong, Pokfulam, Hong Kong.

Email: mtyuen@hku.hk

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Author biographies

Serene Chan is an Ed.D.candidate at the University of Hong Kong. She has experience in English Language Teaching. Her research interests are in creativity and gifted education.

Mantak Yuen (Ph.D.) is an associate professor and Deputy Director of the Centre for Advancement of Inclusive and Special Education in the Faculty of Education at the University of Hong Kong. He was trained as an educational psychologist at the University College London. He is a course coordinator of a postgraduate certificate training course in gifted education and talent development.

Teachers' Beliefs and Practices for Nurturing Creativity in Students: Perspectives from Teachers of Gifted Students in Hong Kong

Abstract

The long-term aim of fostering creativity in all students is specifically included in Hong Kong's curriculum guidelines. However, implementation of teaching strategies to achieve this aim has presented difficulties for many teachers. It is likely that teachers with experience in gifted education are in the best position in this respect, because they may have studied aspects of giftedness in more depth, and may possess essential knowledge and skills to promote creativity. The aim of this exploratory study was to focus on this sub-set of teachers, to investigate their beliefs about creativity and their creativity-fostering practices. Individual in-depth interviews were conducted with 10 primary school teachers. Findings included the teachers' beliefs about creativity and gifted education, and cognitive and personal aspects in their creativity-fostering practices. Implications for teacher education are discussed. (130 words)

Keywords

Creativity, gifted education, beliefs, practices

Teachers play an important role as models and mentors in nurturing students' creativity in the classroom, and the effectiveness of their teaching is influenced by their understanding of the nature of creativity and their attitude towards children who are creative (Bramwell et al., 2011; Cropley, 1997; Sawyer, 2012; Wallace, 1986). Teachers need to have the tools to identify any students who are potentially highly creative, in order to meet their specific needs (Runco et al., 1993). Having an appropriate view of creativity and creative students can increase teachers' effectiveness in providing a learning environment that is conducive to creativity.

Literature Review

Studies have shown that teachers' implicit beliefs can directly shape their classroom practices in fostering creativity in their students (Davies et al., 2013; Sak, 2004). Beliefs of creativity vary culturally as well as within cultural subgroups. For example, it was found that teachers in Korea who supported student creativity in their classes usually had high intrinsic motivation for creative work, and held sophisticated beliefs about knowledge acquisition (Hong et al., 2009). However, Saudi Arabian teachers who had inaccurate concepts related to creativity tended to experience conflicts with creative students in the classroom (Aljughaiman and Mowrer-Reynolds, 2005). This echoes an earlier study by Westby and Dawson (1995) who reported that creative students can often be regarded by their teachers as disruptive and disobedient. For this reason, such students may not receive positive attention and encouragement from the teachers.

There are also particular beliefs about creativity in Chinese societies. Rudowicz and Yue(2000) found that characteristics commonly associated with creativity in the West were not commonly rated as desirable for a Chinese to possess. Two characteristics of creativity to Westerners that were not included in the Chinese conception were humour and aesthetic appreciation. Another study also suggested that Hong Kong teachers appear to have a rather rigid

view of creativity, believing that creativity is contingent on factors such as birth order, effort, health, and logical thinking (Quek et al., 2008). If this is true, then Hong Kong teachers may not think that creativity could be enhanced in their students.

Nevertheless, many authors agree that creativity can be enhanced, and that training and practice do have an effect on creativity (Plucker and Beghetto, 2003; Rose and Lin, 1984; Adams and Pierce, 2006; Coleman and Cross, 2005). Instructional strategies and training programs for creativity abound in the literature. If creativity can and should be enhanced, then the key is to use appropriate methods. In addition to methods, teacher behaviours in the classroom can also establish a climate which is conducive to creativity (Cropley, 2001; Cropley, 1997; Soh, 2000; Furman, 1998).

Context

Recent education reforms in Hong Kong have included an increased emphasis on encouraging students' creativity at all stages of schooling (Curriculum Development Council, 2000), with creativity being promoted now as one of the *nine generic skills* across the curriculum. Among the nine generic skills, three have been given higher priority in all schools – critical thinking, creativity, and communication (Curriculum Development Council, 2001; Education Bureau, 2007c; Education Bureau, 2007b). It is relevant to note that these three skills are directly aligned with the three core elements underpinning gifted education in Hong Kong – higher-order thinking skills, creativity, and personal-social competence (Education Bureau, 2007a; Education Bureau, 2007b).

Separate provision for gifted education is not compulsory in Hong Kong's mainstream schools; but for the schools that want to implement it, there are clear guidelines issued by the Education Bureau. The guidelines suggest that school-based programmes can be developed at

three different levels. Level One immerses the core elements of gifted education at the classroom level and also uses whole-class differentiated teaching. Level Two offers school-based pull-out programmes for students. Level Three provides workshops and programmes for gifted learners that exist beyond the school setting, usually organized by the Gifted Education Section of the Education Bureau, the Hong Kong Academy of Gifted Education, or universities (Education Bureau, 2007b). The intention is that creativity, among other skills, is to be regarded as an important attribute to be nurtured in *all* students, not only in the gifted and talented.

While there have been studies on different social groups in Hong Kong regarding their beliefs on creativity, few have been done on teachers involved in gifted education. The present exploratory study intended to explore the beliefs and practices of 10 such teachers involved in gifted education in Hong Kong primary schools. Two research questions were addressed in the study:

- What perceptions and beliefs concerning creativity are held by teachers involved in gifted education?
- What practices are used by these teachers to foster creativity in their students?

Method

Participants

The target participants for this study were primary school teachers, the reason being that the primary years are important for encouraging creativity in children without the external pressures of public examinations that are faced in Hong Kong secondary schools. In the case of Hong Kong, most teachers of gifted students are teachers in regular classrooms who have to accommodate the needs of gifted students. Many of these teachers have usually had some

training in gifted education but are teaching in regular classrooms.

Criterion sampling (Patton, 2002) was used in selecting teachers for the interviews. Participants had to be involved in gifted education in their school at the whole class level or in pull-out programmes. In addition, we approached teachers who had worked with the Gifted Education section of the Education Bureau as seconded teachers, and teachers who were awardees of the Chief Executive's Award for Teaching Excellence in gifted education (2007-2008). Teachers from schools that were members of the Quality Education Fund Thematic Network – Gifted Education (QTN network) were also contacted. Teachers were approached using these criteria, and 10 teachers (9 females, 1 male) agreed to be interviewed. Length of teaching experience of the teachers ranged from 4 to 30 years, with an average of 14 years (see Table 1).

Research design

Teachers' beliefs and attitudes related to gifted education have usually been investigated using questionnaires and checklists (e.g., Aljughaiman and Mowrer-Reynolds, 2005; Fryer and Collings, 1991; Runco and Johnson, 2002). More recently, researchers have also used interviews and observations in ascertaining teachers' implicit theories of giftedness and creativity (e.g. Sak, 2004; Fleith, 2000; Lilly and Bramwell-Rejskind, 2004).

For the present study, a qualitative approach was employed to discover the perspectives of teachers involved in gifted education. In-depth semi-structured interviews were conducted. This method is deemed appropriate for purpose as it allows the researcher 'to enter into the other person's perspective' (Patton, 2002: 341). Interviews can also produce in-depth data not possible with questionnaires, and can allow for probing of respondents for additional information (Gay et al., 2012).

Data collection and analysis procedures

Semi-structured interviews were conducted. An interview guide with open questions was used, and follow-up questions could be asked for clarification (see sample questions in Table 2). The main interview questions had also been sent to the teachers before the interviews, so that they could come to the session well prepared. All interviews were audio recorded and transcribed. Afterwards, the scripts were analysed using a coding procedure (Miles and Huberman, 1994). The initial coding scheme is shown in Table 3. The codes were clustered and categorized, and themes were generated (Saldana, 2009) (Table 4).

To enhance the reliability of the results, all the interview scripts underwent a second coding by a colleague experienced in school guidance and knowledgeable in qualitative methods. There was a high level of agreement between the two versions of codes. Where there were discrepancies in the coding, these were discussed and a consensus was reached.

Findings

The findings were categorized into ‘beliefs’ and ‘practices.’ For beliefs, the teachers interpreted creativity in terms of person, process, product, environment, and value. Reported here also are teachers’ beliefs about gifted education. Although this was not a main focus of investigation, the theme emerged as one which gave support to why teachers fostered creativity in the classroom. As for creativity-fostering practices, they can be categorized into cognitive or personal aspects.

Beliefs about creativity

Person: The common trend was for teachers to immediately think of the *personal characteristics* of a ‘creative’ individual, including both cognitive characteristics and personality traits. Cognitive characteristics identified by the teachers included fluency and flexibility of

thought, originality, elaboration, transformation, association, analogy, evaluation, redefinition, generating ideas (divergent thinking), and being imaginative and innovative.

Personality traits described by the teachers included creative students being willing to take risks, and daring to be different. These students are also seen to take an active interest in the world around them and usually have keen observation skills.

Process: In terms of process, the teachers saw creativity as involving thinking, reflection, analytic skills, and action to solve problems or generate new ideas. For some students this can involve unconventional methods. This point was highlighted by Frank, a mathematics teacher, who remarked:

Students may have a different way of solving problems, a way I've never thought of before. . . . To me, this is creativity. . . . On one of the problems [I had set], there were two possible solutions; but a student came up with a third solution and solved it.

Product: Teachers also associated creativity with a 'product' in other words, the process resulted in some form of output. Creative products can be new and surprising, but must also make sense and be appropriate for a purpose. Some teachers believed that producing a tangible product is essential in the process, as it helps students see their own ideas take shape and strengthens task commitment. Grace, a teacher who was conducting pull-out programmes for gifted students in her school, felt very strongly about this aspect:

I really stress having a product. In Renzulli's 'Three-Ring Conception of Giftedness', one important component is *commitment*. After all these years, it is most difficult to train students to be responsible, to have commitment. How do you get a student to have commitment when engaging in creative thinking? I believe working towards a product is the key. If you are making something, you need to commit to it. So you see, in all my pull-out programmes there is always a final product.

Environment: Only a few of the teachers explicitly referred to a creative environment. Grace, for example, pointed out that creativity does not happen in a vacuum: 'It's very difficult

to separate creative thinking and creativity from the environment in which they operate.’ Debbie felt that creativity requires an accumulation of knowledge and experience which can only come from the environment. She said, ‘The creative person needs to accumulate and build upon everyday observations...what they have read, or what they have seen. . . . If not, they are not really creative but . . . only copying others.’ In other words, the environment is responsible to some extent for providing (or failing to provide) opportunities for creative talent to emerge.

Value: All the teachers made comments that amounted to a belief that there is inherent value in creativity. They felt that creativity can lead to self-improvement and flexibility in thinking, and adds colour to an otherwise monotonous life. The value could also be utilitarian: for example, Jennifer saw creativity as a life skill, without which school leavers will not be competitive enough, and will not know how to solve problems. Creativity also benefits others, as it ‘...can save lives in real-life crises,’ as mentioned by Ingrid.

Beliefs about gifted education

The teachers’ beliefs about creativity and practices on how to foster creativity were, to some extent, underpinned by their beliefs about gifted education. The interviewed teachers believed that all students have talents, and that teachers should encourage and support students to reach their potentials. Ingrid said that she believed that everyone is good at something, although it is sometimes difficult to identify within the current mode of learning. Bethany’s concern for gifted students was that something must be done for gifted students, otherwise they will become bored and unmotivated in school as they progress to higher grades.

Teacher practices – Cognitive aspects

Gifted education elements: As stated above, the Education Bureau in Hong Kong advocates that the core elements of creativity, higher-order thinking, and personal-social competence

should be embedded within the curriculum for all students (Education Bureau, 2007c). In the interviews, the teachers observed that promoting the three core elements of gifted education needs to be done actively. Five teachers specifically mentioned collaborative efforts in lesson planning to incorporate the three gifted elements into lessons. Caroline explained how this incorporation works:

In whole-class teaching, I use all three elements. For example, in the previous class, my original design started with higher-order thinking, but the materials I usually choose also have an emphasis on affective skills. Finally, through questioning and problem solving tasks, the elements of creativity and creative problem solving will also be included.

Although the teachers recognized the need to promote these elements in class, they admitted it is not always possible. Helena said, 'I do think we should put in elements of creativity and higher-order thinking at Level 1 [i.e., for all students in the class]...but with such a busy curriculum it is not easy to do.'

Divergent thinking: Divergent thinking is an essential aspect of creativity, and teaching methods and resources need to encourage this development in students. The strategies Grace employs in her pull-out programmes include mind mapping, brainstorming, and SCAMPER (substitute, combine, adapt, modify/magnify/minify, put to other uses, eliminate, and rearrange/reverse)(Eberle, 1987). Bethany uses domain-specific tasks, such as creative writing, poetry, creative speaking games, and creative stories in her English lessons. Some teachers reported using different reading materials, role play, and scenarios to provide input and contexts for divergent thinking.

Thinking skills and strategies: The teachers interviewed also activated students' higher-order thinking in class. Ingrid and her colleagues often use Bloom's *Taxonomy of Educational Objectives*(Anderson and Krathwohl, 2001) in the lesson planning. Jennifer uses thinking

techniques such as the Six Thinking Hats (deBono, 1985). Eva said, 'I often use PMI and OPV [Plus, Minus, Interesting and Other People's Views, from de Bono, 1994]. . . . When the students have learned and can handle these techniques, it's like finding a key [to unlock a door].' Other critical thinking activities involving analysis, evaluation, and discussion were also mentioned by the teachers.

Knowledge base: Having an appropriate general knowledge base not only facilitates learning and meta-cognition, but provides the necessary content for divergent thinking and higher-order thinking. For example, Caroline liked to utilize reading materials as a source of new information: 'I use challenging tasks, for example material from literature, or materials with space for thought.' The teachers mentioned how they have guided students to find things out for themselves, do research on their own, and develop their ideas. As Alice said:

You need to know what the children already know. You need to help them build up the knowledge they can apply. You want to teach them to look at the problem from a different perspective; then they might be able to generate some new ideas.

In addition, a related idea mentioned by the majority of the teachers interviewed was the need for suitable *input*. Besides subject knowledge, input can also be in the form of encouragement for independent learning, or it can be as a resource for advice and information.

Teacher practices – Personal aspects

Besides implementing a range of stimulating and challenging activities that will foster the optimum development of creativity, another finding was that the teachers also endeavoured to support the students on the personal level.

Task commitment. The teachers found it important to help students commit themselves to a path of action to see work through to completion. For example, Jennifer found that it was easier to help students commit by harnessing their interests. The importance of capitalising on in

students' interests was to maximise their motivation to learn and focus. Ingrid said:

It is important to let students develop their interests, and their motivation will increase. We want to give gifted students more chances to discover what their source of motivation is. If they know, they will be able to do even better.

Grace was a staunch believer in the importance of producing creative products and she explained that having a tangible final product was an excellent way of strengthening students' commitment to a task. Caroline explained the relationship between commitment and a sense of achievement this way:

If students are happy and have a sense of achievement, they know the reason is because they have persevered and not given up. Then their chances of success, or a reasonable result, will be enhanced. . . . Children are impatient, but if they can have a sense of fulfilment and achievement within a short time, this can encourage them to continue on.

Openness and support: The teachers were cognizant of the emotional needs of creative and gifted students, and provided appropriate support for them. Most of the teachers acknowledged that a few individual students can be very difficult to handle in the classroom. For example, Alice had a student who could draw beautifully, but often she would hit people or cry loudly, causing problems in the group. Helena talked about the importance of supporting her gifted students in terms of their emotional needs, and how she has seen improvement in them after some guidance and training. Grace also cited an example of a student:

Her grades are very good and she's in the top ten in her class But she is very arrogant and conceited. Teachers don't like her because they find her too arrogant. . . . She was in my leadership pull-out programme, and after a year, she was already much better. . . . She learned to communicate with others, to listen to others' opinions, and not to be too opinionated. This, I think, is really important in the creative process.

Classroom management: Some of the classroom strategies described by the teachers facilitated classroom management. This included management in terms of grouping students for the purposes of problem solving and collaboration. The teachers selectively used mixed ability

and same ability groups as needed, and were even flexible in using different ways of grouping in one session. The teachers also tended to use more open-ended questions and higher-order thinking questions to probe and encourage students to think of more possibilities.

Discussion

Some studies in the past have suggested that some mainstream teachers tend to feel less confident in dealing with creative traits in their students (Cropley, 1992; Davis & Rimm, 1994; Fasko, 2000; Westby & Dawson, 1995). For example, according to Westby and Dawson (1995), mainstream teachers in their study often seemed to view creative students as disruptive and difficult to manage in the regular classroom. In contrast to this view, this sample of Hong Kong primary teachers who are experienced in gifted education valued creativity in their students and deliberately tailored their classroom practices to foster creativity. These teachers saw the potential in creative students, and were able to use effective ways when necessary to guide students in changing any undesirable behavioural behaviours into something better. It can be speculated that this positive attitude could be due to the teachers' background and experience in gifted education.

These teachers defined creativity in terms of person, process, product, environment, and value. Such a conceptualization of creativity could be referred to as a 'balanced view' as proposed in studies by Seo, Lee, and Kim (2005) and Lee and Seo (2006). In these studies, the authors asserted that when a balanced view of creativity underpins teaching, it results in a positive impact on students, particularly the gifted.

Findings of teacher practices are related to elements in the Componential Model of Creativity (Cho et al., 2013; Cropley, 2001; Cropley and Urban, 2000), where creativity involves divergent thinking, general knowledge and a thinking base, a specific knowledge base, focusing

and task commitment, motivation, and openness and the tolerance of ambiguity. What is specific to this particular group of teachers are the incorporation of gifted education elements and an emphasis on classroom management. Hong Kong classrooms are usually integrated ones; therefore, management strategies are necessary so as to accommodate students of different needs.

The teachers interviewed in this study had made a very conscious and deliberate choice to implement creativity-relevant practices. Appropriate strategies for this were often included from the first stages of lesson-planning. This shows that teachers with a background in gifted education have advantages when their teaching goal is to enhance creativity in their students. A study by Hansen and Feldusen (1994) adds support to this view when it was discovered that trained gifted education teachers placed greater emphasis on creativity and encouragement of creative thinking, and provided a more accepting environment.

Implications

The findings of this study provide some insights into how 10 primary school teachers in Hong Kong use their knowledge and experience in gifted education to guide students in developing their creativity and positive learning habits. The teachers also recognized the need to cultivate in their students appropriate attitudes and interpersonal skills. The teaching strategies described benefited all students by establishing a stimulating and creativity-fostering learning environment.

The main implications for pre-service and in-service training of mainstream teachers are that: (i) all teachers need to study issues related to giftedness and creativity; (ii) all teachers need to recognize that fostering students' creativity within all areas of the curriculum is important to society; (iii) professional training time needs to be devoted to developing teachers' repertoire of strategies for nurturing creativity. At a practical level, teachers like those interviewed here should have the opportunity within their own schools of sharing their strategies and methods

with other teachers, through school-based seminars and via classroom observation.

Limitations

The study is limited by the choice of participants, as they were teachers involved in gifted education and who were experienced in supporting creativity in the classroom. The small sample size ($N=10$) limits the extent to which the study results can be generalized, and the study can only be regarded as an exploratory, small-scale investigation. It was not feasible (due to time and resource constraints) to obtain a larger, more representative group of teachers. There are certainly many more teachers with or without a background in gifted education who make it a priority to foster creativity in their students. Second, using an interview approach can lead to the collection of subjective data, because it is based on teachers' self-reporting of beliefs and practices. Further study using other research techniques, such as classroom observations, would help to verify teachers' reported classroom practices.

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TABLE 1. Participant Profiles

<i>Teacher</i>	<i>Years of teaching</i>	<i>Subject(s) taught</i>	<i>Selection criteria met</i>
Alice	8	English	Pull-out programmes
Bethany	4	English	Taught courses with the Gifted Education Section of the Education Bureau (EDB); pull-out programmes
Caroline	16	Chinese, Putonghua, Visual Arts	Chief Executive's Award for Teaching Excellence (2007-2008) in gifted education; gifted education team; pull-out programmes
Debbie	11	Chinese, General Studies	Chief Executive's Award for Teaching Excellence (2007-2008) in gifted education; gifted education team; pull-out programmes
Eva	11	Chinese, Religious Studies, General Studies	Chief Executive's Award for Teaching Excellence (2007-2008) in gifted education; gifted education team; pull-out programmes
Frank*	15	Mathematics, General Studies	Seconded teacher of EDB Gifted Education Section; pull-out programmes
Grace	20	Personal Growth Education	QTN School; gifted education team; pull-out programmes
Helena	30	Chinese, Mathematics, General Studies	QTN School; pull-out programmes
Ingrid	10	English, General Studies, Project Learning	QTN School; gifted education team; pull-out programmes
Jennifer	15	English, General Studies, Science	QTN School; gifted education team; pull-out programmes

Frank is the only male teacher.

All names are pseudonyms.

Years of teaching experience is based on the time of interviewing.

QTN = Quality Education Fund Thematic Network – Gifted Education

TABLE 2. Sample interview questions

Key Interview Questions

1. In your opinion, what is creativity?
2. To what extent is creativity important?
3. Is creativity necessary in the Hong Kong classroom?
4. Can you give an example of a creative student?
5. What are some techniques in gifted education that you are using in the regular classroom?
6. To what extent is divergent thinking allowed and encouraged?
7. How is the curiosity of students stimulated?
8. How do students learn to focus and commit to a task?
9. How is task commitment rewarded?
10. Please comment on your classroom practices regarding the following strategies:
questioning, grouping, the learning process, relating to student interests, tolerating errors.

TABLE 3. Initial encoding table and categorization

<i>Highlights in the transcripts</i>	<i>Code (Level 1)</i>	<i>Code (Level 2)</i>
A. Beliefs of the teachers	B	
• About creativity	B-C	
○ Personal characteristics		B-C-PC
○ Environmental characteristics		B-C-EC
○ The process		B-C-Proc
○ The product		B-C-Prod
○ The value		B-C-V
• About gifted education	B-GE	
B. Practices of the teachers	P	
• Gifted education elements	P-GE	
○ Creativity skills		P-GE-C
○ Thinking skills		P-GE-Th
○ Affective skills		P-GE-A
• Strategies	P-S	
○ Grouping		P-S-G
○ Questioning		P-S-Q
• Positive practices	P-Pos	
○ Focus on process		P-Pos-FOP
○ Bringing in students' interests		P-Pos -BISI
○ Helping students commit		P-Pos -HSC
○ Teacher input		P-Pos -TI
• Difficulties	P-D	

TABLE 4. Beliefs and practices

Categories	Sub-categories	Elements
Beliefs	About creativity	<ul style="list-style-type: none"> • Person • Process • Product • Environment • Value
	About gifted education	
Practices	Cognitive aspects	<ul style="list-style-type: none"> • Gifted education elements • Divergent thinking • Thinking skills and strategies • Knowledge base
	Personal aspects	<ul style="list-style-type: none"> • Task commitment • Openness and support • Classroom management