WCES-2011

Teachers’ perceptions of creativity and happiness: a perspective from Singapore

Ai-Girl Tan a *, Dianaros Majid b

a Nanyang Technological University, 1 Nanyang Walk, Singapore 637616
b Ministry of Education Singapore, Singapore

Abstract

One hundred teachers in Singapore rated their conceptions of creativity and perceptions of happiness. The measures used in the study were creativity self-efficacy (Tan, 2007), creative personality (Gough, 1979), satisfaction with life scale (Diener, Emmons, Larsen, & Griffin, 1985), subjective happiness scale (Lyubomirsky & Lepper, 1999), Fordyce Emotions Scale (Fordyce, 1988), and other self-reported creativity and wellness items. Alpha reliability of all scales were .7 and above. Correlations were observed between teachers’ conceptions of creativity self-efficacy scales and happiness scales. Teachers with more than a decade of service scored higher in creativity self-efficacy or happiness than their less-experienced colleagues.

© 2011 Published by Elsevier Ltd. Open access under CC BY-NC-ND license.

Keywords: Teacher, creativity self-efficacy, happiness, Singapore, personality

1. Introduction

In the context of creativity education, teachers are agents of change. They are expected to facilitate independent learning, construct stimulating environments for critical and creative thinking, and role model creativity-fostering behavior (Cropley, 1997). We explore teachers’ conceptions of creativity and it relations to teachers’ perceived happiness and wellness using three research questions (RQ): (1) What are teachers’ perceptions of creativity? (2) What are the relationships between teachers’ perceptions of creativity and happiness? (3) Are there differences in experienced teachers’ (eleven and more years of service) perceptions of creativity and happiness and their counterparts whose years of service are limited to a decade or less? With reference to the first research question (RQ1), we review briefly theories of creativity and the introduction of creativity to the Singaporean teacher education curricula. Guilford’s (1950) presidential address on creativity alerted us that creativity is a multifactorial construct. Creativity comprises multiple components (Amabile, 1983, 1996) including creativity-relevant processes, domain-relevant processes, and task motivation. To be creative, a person shall possess creative characteristics such as being unconventional, being perseverant when faced with uncertainty or even criticism (Simonton, 1999), being independent, highly devoted to work, and being enthusiastic about originality and flexibility (Hayes, 1989). S/he shall attain the state of “flow” in his or her thoughts and emotions, and receive support from his or her socio-cultural environments (Csikszentmihalyi, 1997). Runco and Johnson (2002) report that teachers view creative traits

* Ai-Girl Tan. Tel.: +49-60455741; fax: 49-6045953757
E-mail address: aigirl.tan@nie.edu.sg
desirably. In addition, teachers are expected to cultivate their creative ability and their beliefs in their ability to produce creative outcome, known as creativity self-efficacy (Tierney & Farmer, 2002). Teachers’ conceptions of creativity are influenced by the context in which they work and live. For the past decade, Singapore’s teacher education has introduced creativity theories and pedagogies to its teacher education curricula. Teacher educators in Singapore have investigated themes such as teacher efficacies (Yeo, Chong, Ang, Huan & Quek, 2008), teachers’ conceptions of creativity (Quek, Ho, & Soh, 2008), and teachers’ creative pedagogies (Kwek, Albright, & Kramer-Dahl, 2007). Career paths of teachers include the expert track for teachers who specialise in their subject matters, the master and senior teacher tracks for experienced teachers who are confident in pedagogical expertise and the leadership track for those whose strengths are in administration. Teachers are expected to be open to contemporary knowledge of creativity. With the open reception of contemporary theories, techniques, and strategies of creativity, we hypothesize that Singaporean teachers’ possess multidimensional conceptions of creativity.

For the second research question (RQ2), we make reference to the positive psychological movement (Seligman, 1998) and our initial effort to integrate positivity and creativity. According to Barbara Fredrickson (2001) certain positive emotions (in particular, joy, interest, contentment, pride, and love) can momentarily broaden thought-action repertoires and increase a person’s enduring personal resources. Positive emotions instigate individuals to play, explore, savor, share, and continue in cycles of these experiences as long as they experience a safe environment. Through these behaviors, individuals then increase their personal and social resources by having new experiences, inventing, and learning. Fredrickson asserts that over time, experiencing positive emotions allows individuals to become more resilient to stressors and to use more effective coping skills when facing problems. Because positive emotions support divergent patterns of thinking, it can be concluded that experiencing positive emotions will increase creativity and support a creative mindset over a lifetime. Similarly, Tan, Ho, Ho, and Ow (2008) and Hill, Tan, and Kikuchi (2008) found that there were positive correlations between creativity self-efficacy and happiness among Singaporean and international high school students. Gan (2008) reported that in the context of art teachers in Singapore there was a positive relationship between creativity self-efficacy (Tan, 2007) and creative personalities (Gough, 1979). Accordingly, we hypothesize that there are positive relationships between creativity self-efficacy and creative personality, as well as between creativity self-efficacy and happiness.

With regard to the third research question (RQ3), we highlight the role of experience in facilitating teachers’ readiness to engage in creative teaching. Despite the repeated calls to teachers to engage in fostering creativity in the classroom, teachers might dismiss some potential creative behavior of students (Beghetto, 2008). They might perceive creative behavior in the classroom as less desirable (Ng & Smith, 2004). Teachers need support and a stimulating teaching and learning context that can remove their discomfort (Cremin, 2006). To foster the creativity of students, it is thus essential to enhance teachers’ beliefs in teaching, hard work, and motivation (Horng, Hong, Chanlin, Chang, & Chu, 2005). Teachers should be encouraged to employ and develop creative pedagogies within their specialized domain, such as the English language (Kwek, Albright, & Kramer-Dahl, 2007). Depending on the contextual experiences teachers have, they may possess relatively less rigid or rigid conceptions of creativity (e.g., creativity is dependent on birth) (Quek, Ho, & Soh, 2008). Yeo, Chong, Ang, Huan, and Quek (2008) reported that experienced teachers rated higher their efficacies in instructional strategies and other teacher efficacies than their novice counterparts did. Tan (2001) found that experienced teachers in Singapore were likely to employ a variety of learning activities, while novice teachers employed a limited set. The above observation seems to be consistent with Ericsson and Chamess’s (1994) view that deliberate practice over a period of time enhances a person’s expertise. Accordingly, we hypothesize that teachers who have served for a decade or more are more creativity self-efficacious and happier than their colleagues who just joined the service.

2. Methods

2.1. Participants

A total of 100 teachers in Singapore participated in the present study. Twenty five of them were male and seventy-five were female. Their age ranged from 20 to 65 years old: six of them below 20 years old, 27 between 21
and 30 years old, 45 between 31 and 40 years old, 17 between 41-50 years old, three between 51 and 60 years old,
and two 60 years and above. There were 28 teachers who have been in the teaching services between 1-5 years, 28
of them for 6-10 years, 16 for 11-15 years, seven teachers for 16-20 years, and 21 teachers joined the service for 21
years or more. Of the total, 54 were of Chinese ethnicity, 27 were Malays, 11 were Indians, and eight of other
ethnicities. Sixty-eight were primary school teachers, 28 were teachers in secondary schools, and four junior college
teachers. Nearly one third of them were not married (n = 36) and two-thirds were married (n = 63). One of them did
not report his or her marital status.

2.2. Measures

2.2.1. Creativity self-efficacy scale.

The Creative Self-efficacy Scale (CSE, Tan, 2007) measures three types of capabilities related to creativity. It
includes nine statements and respondents were asked to rate these statements from 1 to 5 on a Likert scale. The scale
ranges from (1) very much unlike me, (2) unlike me, (3) moderately like me, (4) like me, and (5) very much like me.
The exploratory factor analysis using principal component analysis and oblique rotation yielded two components
accounting for 66.75% of variance: Idea generation (variance, v: 51.25%, eigenvalue, e: 4.08) and persistency (v:
14.50%, e: 3.49). The Kaiser-Meyer Olkin Measure of Adequacy was .86, and the Barlett’s test of sphericity
approximated chi-square was 449.16 (df = 36, p < .001). The component correlation between creativity self-efficacy
in idea generation and creativity self-efficacy in persistency was .49. Three items were adopted from Beghetto
(2006) and two from Tan (2007): I am good at coming up with new ideas (.92, .90), I have a lot of good ideas (.84,
.88), I have a good imagination (.72, .88), I am good at combining existing ideas (.76, .78), and I can reach the goal
of coming up with original ideas or things (.78, .81). Four items for persistency were: I have a strong will to master
knowledge (.72, .79), I constantly check to see how well I am doing (.84, .80), I continue doing my task and never
give up if I face difficulty (.82, .80), and I have a strong will to improve skills and techniques (.79, .84). Alpha
reliabilities for creativity self-efficacy scale in idea generation, persistency of this study were .88 and .82.

2.2.2. Self-report creativity.

....This scale includes two items which are: How creative would you describe yourself? Is involvement in a
creative practice an important purpose in your life? The items were answered on a 7-point Likert scale ranging from
(1) not at all creative, to (7) highly creative, for the first item and from (1) not at all important, to (7) highly
important, for the second item.

2.2.3. Creativity personality scale.

....The creative personality scale (CPS, Gough, 1979) is a self-report inventory developed by Gough (1979). This
test for creative personality was chosen because it has been highly regarded as criterion measures of creativity,
widely used, (Sheldon, 1995) and validated (e.g., Dollinger, Dollinger, & Centeno, 2005; Hocever, 1981). Only 18
positive adjectives were used in this study. Examples of the adjectives were “capable”, “clever”, “confident”,
“humorous”, “insightful”, “inventive”, and “interest wide”. In the present study, the CPS was used for self-perceived
personal characteristics. The alpha reliability for self-perceived positive creative personality was .79.

2.2.4. Satisfaction with life scale.

The Satisfaction with Life Scale (SWLS, Diener, Emmons, Larsen, & Griffin, 1985) was developed to assess
satisfaction with people’s lives as a whole. The SWLS is a 5-item broad-band instrument measuring life satisfaction.
Examples of items were: In most ways my life is close to my ideal, and if I could live my life over, I would change
almost nothing. The SWLS uses a 7-point Likert scale, ranging from strongly disagree (1), disagree (2), slightly
disagree (3), neither agree nor disagree (4), slightly agree (5), agree (6), and strongly agree (7). The alpha reliability
of SWLS for this study was .86.
2.2.5. Subjective happiness scale.

The Subjective happiness scale (SHS, Lyubomirsky & Lepper, 1999) is a 4-item scale of global subjective happiness. Two items ask respondents to characterize themselves using both absolute ratings and ratings relative to peers, whereas the other two items offer brief descriptions of happy and unhappy individuals. Items are answered on a 7-point Likert scale. One sample item is: ‘in general I consider myself; (1) not a very happy person, to (7) a very happy person. The SHS of this study had a high alpha reliability of .83.

2.2.6. Fordyce emotions scale.

The Fordyce emotion scale (Fordyce, 1988) is scale examines how happy or unhappy a person usually feels. One statement is checked best describing a person’s average level of happiness. The scale includes ten statements, each with a rating: “10” being extremely happy (i.e., feeling ecstatic, joyous, and fantastic), “1” being extremely unhappy (utterly depressed, completely down). In addition, percentage of the time a person feels a) happy b) unhappy c) neutral (neither happy nor unhappy) is estimated, which should add up to 100 percent.

2.2.7. Self report wellness.

….One item was constructed to measure the wellness of the participants: How do you rate your personal sense of well-being on a daily basis? The items were answered on a 7-point Likert scale ranging from (1) extremely depressed, to (7) extremely contented.

2.3. Backgrounds.

The participants self-reported their gender, age, ethnicity, marital status, school-related information (i.e., levels they teach) and years of service.

2.4. Procedures

The questionnaire was distributed to the participants when they attended school-based workshops. The questionnaire took about 30 minutes to complete and was returned to the researcher upon completion.

3. Results

Alpha reliability, mean, standard deviation, skewness, and kurtosis were computed for all measures. The alpha reliability of each scale was .70 and above, thus we assumed the presence of internal consistency. When the values of skewness and kurtosis of the scales were below 1.64, we subjected the responses to further analysis. Zero order correlations (Pearson, bivariate) of the measures were computed by controlling the years of service variable. Table 1 summarizes the findings.

<table>
<thead>
<tr>
<th>MS</th>
<th>D</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>3.55</td>
<td>.65</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>3.70</td>
<td>.61</td>
<td>.50</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>4.58</td>
<td>.99</td>
<td>.60</td>
<td>.39</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>4.89</td>
<td>1.17</td>
<td>.49</td>
<td>.41</td>
<td>.43</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>4.98</td>
<td>3.57</td>
<td>.68</td>
<td>.37</td>
<td>.57</td>
<td>.24</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>4.95</td>
<td>1.08</td>
<td>.30</td>
<td>.30</td>
<td>.12</td>
<td>.01</td>
<td>.20</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>2.60</td>
<td>.42</td>
<td>.54</td>
<td>.31</td>
<td>.33</td>
<td>.22</td>
<td>.35</td>
<td>.64</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>7.50</td>
<td>1.04</td>
<td>.39</td>
<td>.20</td>
<td>.22</td>
<td>.08</td>
<td>.12</td>
<td>.49</td>
<td>.62</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 Mean, Standard Deviation, and Zero-Order Pearson Correlations of All Measures
Linear regression (stepwise) analysis was performed to find out predictors for creativity efficacy in idea generation (CSE_idea generation) and creativity efficacy in persistence (CSE_persistence). In the first analysis, creativity self-efficacy in idea generation was the dependent variable, and other measures of creativity (my creativity, importance of creativity in life, and creative personality) and happiness (Fordyce happy, neutral and unhappy, satisfaction with life, my wellness, and subjective happiness) were independent variables. In the step 1 analysis, creative personality accounted for 47% of variance in creativity self-efficacy in idea generation, which was highly significant, F(1, 90) = 79.40, p <.001. Creative personality (β=.69, p <.001) demonstrated significant effect on the creativity self-efficacy in idea generation. In the step 2 analysis, creative personality and subjective happiness accounted for 57% of variance in creativity self-efficacy in idea generation, which was highly significant, F (2, 89) = 58.70, p <.001. Both creative personality (β=.57, p <.001) and subjective happiness (β=.34, p <.001) were significant. In the step 3 analysis, creative personality (β=.50, p <.001), subjective happiness (β=.30, p <.001) and importance of creativity in life (β=.29, p <.001) accounted for 65% of variance in creativity efficacy in idea generation, at F (3, 88) = 53.33, p <.001. In the step 4 analysis, perceived creative personality (self, β=.51, p <.001), subjective happiness (β=.20, p <.001), importance of creativity in life (β=.30, p <.001), and Fordyce unhappy (β= -.19, p = .01) accounted for 67% of variance in creativity self-efficacy in idea generation, which was highly significant, F(4, 87) = 44.49, p < .001.

In the second analysis creativity self-efficacy in persistence was taken as the dependent variable, and creativity (my creativity, importance of creativity in life, creative personality) and happiness (satisfaction with life and subjective happiness) as independent variables. In the step 1 analysis, importance of creativity in life accounted for 22% of variance in creativity self-efficacy in persistence, which was highly significant, F(1, 90) = 25.97, p <.001. Importance of creativity in life (β=.47, p <.001) demonstrated significant effect on the creativity self-efficacy in idea generation. In the step 2 analysis, importance of creative in life and satisfaction with life accounted for 33% of variance in creativity efficacy in idea generation, which was highly significant, F (2, 89) = 19.99 p <.001. Both creative personality (β=.44, p <.001) and subjective happiness (β=.33, p <.001) were significant. In the step 3 analysis, creative personality (β=.38, p <.001), subjective happiness (β=.28, p = .002) and importance of creativity in life (β=.24, p =.01) accounted for 38% of variance in creativity efficacy in idea generation, at F (3, 88) = 17.97, p <.001 (Table 2).

Table 2. Results of Regression (Stepwise) Analysis: Creativity Self-efficacy as Dependent Variable

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Independent variable</th>
<th>Multiple correlation coefficient (R²)</th>
<th>Standardized regression weight (beta)</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idea generation</td>
<td>Creative personality</td>
<td>.67</td>
<td>.51</td>
<td>44.49</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td>SHS</td>
<td></td>
<td>.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Importance</td>
<td></td>
<td>.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unhappy</td>
<td></td>
<td>-.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persistence</td>
<td>Importance</td>
<td>.38</td>
<td>.38</td>
<td>17.97</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>
Teachers with more than ten years of service in this study ($n = 44$) scored higher in creativity (importance in life, creativity self-efficacy in persistence) and happiness (Fordyce happy and satisfaction with life) than their counterparts whose years of service below were ten ($n = 56$) did, with effect sizes between moderate and high (.5-1). Teachers with less years of service scored higher in neutral feelings than their counterpart whose years of service exceeded ten years, with a moderate effect size (.61) (Table 3).

Table 3 Mean, Standard Deviation, t-value and Cohen-d for Experienced and Less Experienced Teachers

<table>
<thead>
<tr>
<th></th>
<th>Experienced teachers ($n = 44$)</th>
<th>Less experienced teachers ($n = 56$)</th>
<th>t</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance</td>
<td>M = 5.32, SD = .98</td>
<td>M = 4.55, SD = 1.20</td>
<td>-3.41**</td>
<td>.77</td>
</tr>
<tr>
<td>Fordyce happy</td>
<td>60.30, 10.94</td>
<td>54.64, 20.84</td>
<td>-2.76**</td>
<td>.54</td>
</tr>
<tr>
<td>Neutral</td>
<td>19.63, 9.12</td>
<td>25.23, 14.84</td>
<td>2.18*</td>
<td>-.61</td>
</tr>
<tr>
<td>SWLS</td>
<td>5.26, .72</td>
<td>4.70, 1.24</td>
<td>-2.58*</td>
<td>.78</td>
</tr>
<tr>
<td>CSE-persistence</td>
<td>3.94, .55</td>
<td>3.51, .59</td>
<td>-3.58***</td>
<td>.78</td>
</tr>
</tbody>
</table>

Note: * $p < .05$, ** $p < .01$, *** $p < .001$. Experienced teachers = 11 or more years of teaching service, less experienced teachers = 10 or less years of teaching service. Importance = importance of creativity in life, Neutral = neutral feelings, SWLS = Satisfaction with Life Scale, CSE - persistence = creativity self-efficacy in persistence.

4. Discussion

Our study examined three research questions related to teachers’ perceptions of creativity and happiness in the context of Singapore. The present study intended to find out after nearly a decade of deliberate engagement in creativity education at the level of policymaking; what are Singaporean teachers’ views of creativity? (RQ1)

Singaporean teachers in our study rated their self-perceived creativity moderately high. They possessed moderately high self-beliefs in the capacity to generate ideas and imagine, as well as to be persistent in creative endeavors. They viewed the importance of creativity in life moderately (Table 1). From the factor analysis on the two creativity self-efficacy subscales, we can make preliminary conclusions that Singaporean teachers’ conceptions of creativity are multidimensional. The teachers’ moderately high ratings of themselves as having creative personalities were consistent with the recent development in Singaporean teacher educational expectations. The recent criteria of assessment of teaching for novice teachers did not include fostering critical and creative thinking. Instead, the assessment criteria are such as: reinforcing good behaviour, using preventive and intervention strategies to manage classroom behaviour, showing care and concern for students, demonstrating adaptability, being reflective, and demonstrating warmth and enthusiasm. Teacher educators in Singapore seem to refocus their expectation to practical and useful strategies for creating stimulating environments for learning. Would teachers facilitate creative learning in safe environments?

Creativity self-efficacy subscales correlated positively with happiness scales, i.e., satisfaction with life, subjective happiness, well-being, percentage of happiness and average emotions (RQ2, Table 1). The findings were consistent with the theories or models that describe how positive emotions facilitate cognitive activities including creative and imaginative thinking (see e.g., Fredrickson, 2001). Specifically, creativity self-efficacy in idea generation correlated positively and significantly with all the measures used in the study except negative and neutral emotions. Creative personality, subjective happiness, importance of creativity in life and unhappy emotions were predictors of creativity self-efficacy in idea generation (accounted for 66% of variance). Predictors for creativity self-efficacy in persistence were importance of creativity in life, satisfaction with life, and creative personality (accounted for 36% of the variance). Our preliminary findings lent some support to the previous findings (e.g., Runco & Johnson, 2002) that teachers perceived highly traits or characteristics of creative people. The findings clarify the inclusion of criteria of
high quality, socially acceptable professional dispositions of teachers (mentioned above) as part of the novice teachers’ teaching practice criteria in the everyday classroom. Future research should examine the various aspects of creativity (i.e., personality, efficacy, and conceptions) and its relations to creative teaching, accomplishments in life, and successes in learning. When a person holds a high level of self-efficacy, he or she will put substantial effort on the task. As a result his or her accomplishments and personal well-being will be enhanced (Bandura, 1994). When the performance outcome is not satisfying, people with high levels of self-efficacy will not give up and instead work harder to master the challenge, while people having doubts about their capabilities will reduce the amount of effort or terminate their attempts (Bandura, 1993).

Creativity in a career peaks after a person acquires sufficient knowledge, expertise and experience (Simonton, 1977). The number of years of service is an indicator of experience of a person in the field of his or her specialization. In this study we grouped the teachers according to their years of service: ten years or below and eleven years and above. We learned from our findings that experienced teachers rated the importance of creativity in life, Fordyce happiness, satisfaction with life, and creativity self-efficacy in persistence higher than the less experienced teachers did, with moderate effect sizes, except for Fordyce neutral emotions (Table 3, RQ3). The measures above required a person to recall and reflect upon their experience in life and their attitudes toward creativity and happiness. Experienced teachers who have been staying in the teaching professions likely represent those who possess strong passion to bring out the best in their students, including developing students’ creative potential, and those who have gained satisfactory and happy experiences at work. Accordingly, our findings seem to suggest that it is worthwhile to investigate types of activities that are rewarding and that have induced positive emotions and positive attitudes toward creativity among experienced colleagues (long years of service). We should also find out factors that hinder development of positive emotions and passionate attitudes toward creativity among less experienced teachers (short years of service). To ensure the healthy and balanced development of all children, it is timely for Singaporean teacher education and teacher education research to embark in systematic, evidence-based research and practice that are meaningful, insightful, and creative.

References


