ภาวะผู้นำเชิงสร้างสรรค์สำหรับผู้อำนวยการโรงเรียนประถมศึกษาในการส่งเสริม
ความคิดสร้างสรรค์ของครูในกวางสีประเทศจีน

Creative Leadership for Primary School Principals to Promote
Teachers' Creativity in Guangxi, China

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บทคัดย่อ

วัตถุประสงค์ของการวิจัยเพื่อศึกษากรอบแนวคิดและสภาพที่พึงประสงค์ของภาวะผู้นำเชิง
สร้างสรรค์สำหรับผู้อำนวยการโรงเรียนประถมศึกษาในการส่งเสริมความคิดสร้างสรรค์ของครู โดยใช้วิธีวิจัย
แบบผสมผสาน ตัวอย่าง ได้แก่ โรงเรียนในสังกัดกวางสี จำนวน 106 โรง ผู้ให้ข้อมูล ได้แก่ ผู้อำนวยการและ
ครู จำนวน 636 คน เครื่องมือที่ใช้ในการวิจัย ได้แก่ แบบสอบถามและแบบประเมินความเหมาะสมและ
ความเป็นไปได้ของกรอบแนวคิด สถิติที่ใช้ในการวิเคราะห์ข้อมูล คือ ค่าความถี่ ร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบน
มาตรฐาน ผลการวิจัย พบว่า 1) กรอบแนวคิดของภาวะผู้นำเชิงสร้างสรรค์สำหรับผู้อำนวยการโรงเรียน
ประถมศึกษาในการส่งเสริมความคิดสร้างสรรค์ของครู ประกอบด้วย 1.1) การส่งเสริมความสามารถ
เชิงสร้างสรรค์ของครูทุกคนในโรงเรียน 1.2) การสร้างและส่งเสริมทีมงานครูที่มีความคิดสร้างสรรค์เชิงพลวัต
1.3) การส่งเสริมวัฒนธรรมโรงเรียนเชิงนวัตกรรม 2) สภาพปัจจุบันของภาวะผู้นำเชิงสร้างสรรค์สำหรับ
ผู้อำนวยการโรงเรียนในการส่งเสริมความคิดสร้างสรรค์ของครูในกวางสีประเทศจีน ในภาพรวมอยู่ในระดับ
ปานกลาง (M = 3.37) สภาพที่พึงประสงค์ในภาพรวมอยู่ในระดับมากที่สุด (M = 4.81) เมื่อพิจารณา
รายด้าน พบว่า การส่งเสริมความสามารถเชิงสร้างสรรค์ของครูทุกคนในโรงเรียน มีค่าเฉลี่ยสูงที่สุด
(M = 4.82)

คำสำคัญ: ภาวะผู้นำเชิงสร้างสรรค์, ผู้อำนวยการโรงเรียนประถมศึกษา, ความคิดสร้างสรรค์ของครู, กวางสี
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Abstract

The objectives of this research were to study the conceptual framework and the current and desirable state of creative leadership by primary school principals to promote teachers' creativity. This study employed mixed-method research and involved 636 school principals and teachers from 106 schools as samples. The instruments used in this study were a questionnaire and a conceptual framework evaluation form of suitability and feasibility. The data was analysed by using frequency, percentage, average, standard deviation. The results showed that 1) the conceptual framework of creative leadership by primary school principals to promote teachers' creativity consists of roles of creative leadership involved three areas including 1.1) to facilitate the creative abilities of every teacher at school, 1.2) to form and facilitate dynamic creative teacher teams, and 1.3) to promote a school culture of innovation. Further, the results showed 2) the current state of the creative leadership by primary school principals to promote teachers' creativity in Guangxi, China was at a middle level overall (M = 3.37). The desirable state was at the highest level overall (M = 4.81). When considering each aspect, a principal's ability to facilitate the creative abilities of every teacher at school to promote the teachers' creativity was at the highest average (M = 4.82).

Keywords: creative leadership, primary school principals, teachers' creativity, Guangxi – China

Introduction

Since the reform and opening up, China has made significant achievements in economic and social development. However, there are still some outstanding conflicts and problems, such as environmental pollution, resource crisis, and underdevelopment of human resources, as well as an unbalanced regional economy and the rich-poor divide. At the same time, China is facing multiple foreign challenges to include global competition, technological innovations, new patterns of trade, and so on (Gu et al., 2009). All these challenges have highlighted the pressing need to enhance citizens' quality and cultivate their creative, innovative, and adaptive talent to achieve sustainable development of the economy and society (Chu & Cravens, 2012; Feng, 2006; Qian & Walker,

2011). In 2013, the UNESCO/UNDP Creative Economy Report discussed the impact of creativity on sustainable development and concluded: "....there is an urgent need to find new development pathways that encourage creativity and innovation in the pursuit of inclusive, equitable and sustainable growth and development" (United Nations Development Programme, 2013). Besides, creativity is perceived as a starting point and the driving force for innovation (Amabile et al., 1996; Robinson, 2011), Thus, we must cultivate the creative and innovative abilities of new generations. Doing so must become one of the principal priorities of education and training everywhere (Gu, 2010; Robinson, 2011; Siribanpitak, 2012). For schools, the task of cultivating creative students falls on school principals and teachers (Craft et al., 2014; Robinson & Aronica, 2015).

Fostering students' creativity requires a teacher to be creative (Colley, 2015; Hewitt & Tarrant, 2015; Robinson, 2006, 2009; Tian, 2007). In 1999, NACCCE reported that students' creative abilities are most likely to be developed in an atmosphere in which the teacher's creative abilities are properly engaged. To put it another way, teachers cannot develop the creative abilities of their pupils if their own creative abilities are suppressed (National Advisory Committee on Creative and Cultural Education, 1999). Therefore, we must promote teachers' creativity so they can promote students' creativity. However, who or what will influence teachers' creative teaching and how to influence their creativity development in school remains undetermined. According to Afshari et al. (2013), school principals' leadership can influence the structure and culture of schools that will affect the generation and implementation of teachers' new ideas within a school (Harris, 2009; Stoll & Temperley, 2009). In line with this idea, some scholars and researchers point out emphatically that school leaders' vision, action and the way that they direct and the condition that they support can

surpass or mobilize teachers' creative teaching and students' creative learning (Peterson, 2013; Robinson & Aronica, 2015; Sternberg, 2006). Thus, it can be concluded that the leadership of school principals can promote teachers' creativity in school.

What style of school leadership might enhance teachers' creative teaching in school is subjective. According to the study of Mainemelis et al. (2015), they identified that there are three conceptualizations of creative leadership. One of the three conceptualizations of creative leadership focuses on the organisational leader's role in fostering the creativity of others in the organisational context. Additionally, Robinson (2009, 2011) stated that the role of creative leadership is to facilitate creativity and innovation in any organisational context, including 1) to facilitate the creative abilities of every member of the organisation, 2) to form and facilitate dynamic creative teams, and 3) to promote a general culture of creativity and innovation. Stoll and Temperley (2009) also demonstrated that the role of creative leadership reveals creative school principals can create the right conditions, structure and culture in which teachers' creativity can thrive.

As demonstrated above, creative school leadership has significance in enhancing teachers' creativity and innovation. Therefore, school leaders should actively develop creative leadership practices to form 'space' and 'opportunities' for teachers' creativity to flourish. While many scholars and researchers have recognised the importance of creative leadership in business organisations, very few have examined this topic within the context of school administration (Jarvis, 2015). Stoll and Temperley (2009) also found that no related educational research focused specifically on creative leadership and very limited educational applications exist. Moreover, very limited research has been conducted on the effect of creative school leadership on teachers' creativity. This study is based

on this pressing need and attempted to study the creative leadership of primary school principals to promote teachers' creativity in selected primary schools in Guangxi, China.

The researcher focused on Guangxi because the findings of the research study by Wu et al. (2010) indicated that primary school principals lack the imagination, creativity, and leadership necessary to promote teachers' professional development in the less developed regions, Guangxi included. Ma et al. (2014) showed that many teachers who work in the rural primary schools of Guangxi lack innovation awareness and collaboration in teaching. Additionally, Wei (2015) found that primary school students who study in the backward areas of Guangxi fear making mistakes and lack self-confidence as well as innovation spirit. Moreover, basic education is a critical period in the development of students' creativity (Gu, 1999; Wang, 2010, 2011). The Department of Education in Guangxi stressed several times that strengthening primary school principals creative leadership and professional management, as well as teachers' professional development can foster the creativity and creative habits of students, which is an essential starting point for deepening basic education reform and new curriculum reform to cultivate creative and innovative talents for national sustainable development (Qian & Walker, 2011). Therefore, the researcher decided to study the creative leadership of primary school principals to promote teachers' creativity in Guangxi, China.
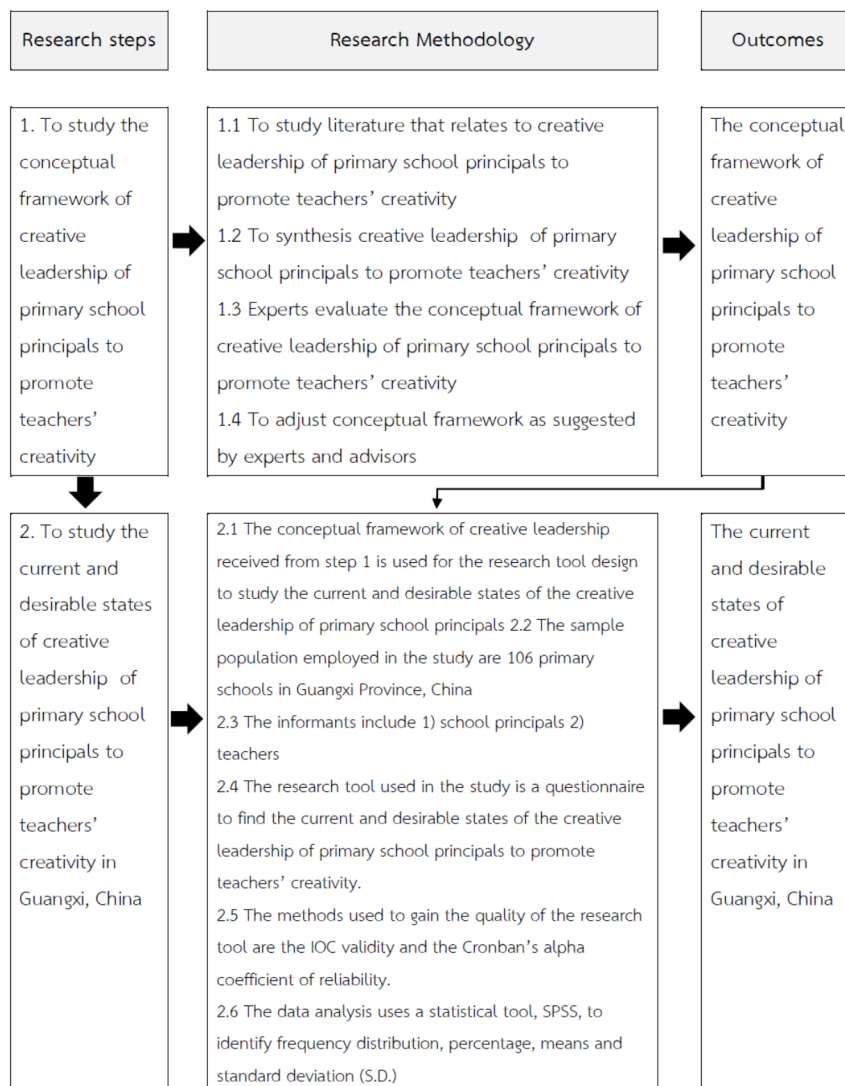
Research Objectives

1. To study the conceptual framework of creative leadership by primary school principals to promote teachers' creativity.

2. To study the current and desirable states of creative leadership by primary school principals to promote teachers' creativity in Guangxi, China.

Research methodology

This research used a mixed-methods design of quantitative and qualitative analysis. The research process was designed to include two steps (Figure 1).

Figure 1

Research methodology

Research steps	Research Methodology	Outcomes
1. To study the conceptual framework of creative leadership of primary school principals to promote teachers' creativity	1.1 To study literature that relates to creative leadership of primary school principals to promote teachers' creativity 1.2 To synthesis creative leadership of primary school principals to promote teachers' creativity 1.3 Experts evaluate the conceptual framework of creative leadership of primary school principals to promote teachers' creativity 1.4 To adjust conceptual framework as suggested by experts and advisors	The conceptual framework of creative leadership of primary school principals to promote teachers' creativity
2. To study the current and desirable states of creative leadership of primary school principals to promote teachers' creativity in Guangxi, China	2.1 The conceptual framework of creative leadership received from step 1 is used for the research tool design to study the current and desirable states of the creative leadership of primary school principals 2.2 The sample population employed in the study are 106 primary schools in Guangxi Province, China 2.3 The informants include 1) school principals 2) teachers 2.4 The research tool used in the study is a questionnaire to find the current and desirable states of the creative leadership of primary school principals to promote teachers' creativity. 2.5 The methods used to gain the quality of the research tool are the IOC validity and the Cronban's alpha coefficient of reliability. 2.6 The data analysis uses a statistical tool, SPSS, to identify frequency distribution, percentage, means and standard deviation (S.D.)	The current and desirable states of creative leadership of primary school principals to promote teachers' creativity in Guangxi, China

Findings

1. The conceptual framework for the creative leadership of primary school principals to promote teachers' creativity

Five educational and academic experts individually examined the suitability and feasibility of the conceptual framework for creative leadership by primary school principals to promote teachers' creativity (Table 1).

Table 1

Evaluation of the conceptual framework related to the roles of creative leadership by primary school principals as examined by experts

The roles of creative leadership by primary school principals	Suitability		Feasibility		Should be modified	
	Number	Percent	Number	Percent	Number	Percent
1. Personal: To facilitate the creative abilities of every teacher at school	5	100.00	5	100.00	0	0.00
1.1 Engage every teacher using their creative potential in teaching	5	100.00	5	100.00	0	0.00
1.2 Energize every teacher's imagination for teaching	5	100.00	5	100.00	0	0.00
1.3 Provide every teacher learning opportunities to enhance creativity in teaching	5	100.00	5	100.00	0	0.00
2. Group: To form and facilitate dynamic creative teacher teams	5	100.00	5	100.00	0	0.00
2.1 Facilitate diversity in teacher teams	5	100.00	5	100.00	0	0.00

Table 1 (Cont.)

Evaluation of the conceptual framework related to the roles of creative leadership by primary school principals as examined by experts

The roles of creative leadership by primary school principals	Suitability		Feasibility		Should be modified	
	Number	Percent	Number	Percent	Number	Percent
2.2 Facilitate collabora-tion in teacher teams	5	100.00	5	100.00	0	0.00
2.3 Offer time for teacher teams to work on their passion	5	100.00	5	100.00	0	0.00
3. Culture: To promote a school culture of innovation	5	100.00	5	100.00	0	0.00
3.1 Promote a flexible school culture	5	100.00	5	100.00	0	0.00
3.2 Promote an inquiring school culture	5	100.00	5	100.00	0	0.00
3.3 Create creative school workspaces	5	100.00	5	100.00	0	0.00
Total		100.00		100.00		0.00

Overall, Table 1 indicates the conceptual framework related to the roles of creative leadership by primary school principals has suitability and feasibility at 100%. Therefore, the roles of creative leadership of primary school principals to promote teachers' creativity were used in a conceptual framework, including 1. Personal: To facilitate the creative abilities of every teacher of the school: 1.1 Engage every teacher using their creative potential in teaching, 1.2 Energize every teacher's imagination for teaching, 1.3 Provide learning opportunities to enhance creativity in teaching; 2. Group: To form and facilitate dynamic and creative teacher teams: 2.1 Facilitate diversity in teacher teams,

2.2 Facilitate collaboration in teacher teams, 2.3 Offer time for teacher teams to work on their passion; 3. Culture: To promote a school culture of innovation: 3.1 Promote a flexible school culture, 3.2 Promote an inquiring school culture, and 3.3 Create creative school workspaces.

2. The current and desirable states of creative leadership of primary school principals to promote teachers' creativity in Guangxi, China

2.1 The current state of creative leadership by primary school principals to promote teachers' creativity in Guangxi, China

1) Analysis of the internal environment

1.1) Based on the analysis of the current state of the internal environment, the findings indicate that the overall picture of creative leadership of primary school principals to promote teachers' creativity in Guangxi, China is at a middle level (M = 3.37, SD = 0.87). When considering each aspect, facilitating the creative abilities of every teacher at school has the highest mean value (M = 3.42, SD =0.87), followed by promoting a school culture of innovation (M = 3.35, SD =0.90) and forming and facilitating dynamic creative teacher teams (M = 3.34, SD =0.93), respectively.

1.2) Based on the analysis of each aspect, the findings indicate that:

1.2.1) the aspect of facilitating the creative abilities of every teacher at school is at a middle level (M = 3.42, SD = 0.87) when considering each item, while engaging every teacher using their creative potential in teaching has the highest mean value (M = 3.46, SD = 0.94), followed by providing every teacher learning opportunities to enhance creativity in teaching (M = 3.43, SD = 0.95) and energizing every teacher's imagination for teaching (M = 3.38, SD = 0.96), respectively.

1.2.2) the aspect of promoting a school culture of

innovation is at a middle level (M = 3.35, SD = 0.90), while promoting a flexible school culture has the highest mean value when considering each item (M = 3.39, SD = 0.98), followed by promoting an inquiring school culture (M = 3.36, SD = 0.98) and creating creative school workspaces (M = 3.30, SD = 0.96), respectively.

1.2.3) the aspect of forming and facilitating dynamic creative teacher teams is at a middle level (M = 3.34, SD = 0.93), while facilitating collaboration in teacher teams has the highest mean value when considering each item (M = 3.41, SD = 0.97), followed by facilitating diversity in teacher teams (M = 3.36, SD = 0.97) and offering time for teacher teams to work on their passion (M = 3.28, SD = 1.08), respectively.

2) Analysis of the external environment

From the analysis of the current state of the external environment, the findings reveal the overall picture of creative leadership by primary school principals to promote teachers' creativity in Guangxi, China is at a middle level (M = 3.30, SD = 0.83). When considering each aspect, the political and government policy factor has a highest mean value (M = 3.34, SD = 0.82), followed by the socio-cultural factor (M = 3.29, SD = 0.85), the technological factor (M = 3.29, SD = 0.86) and the economic factor (M = 3.27, SD = 0.86), respectively.

2.2 The desirable states of creative leadership by primary school principals to promote teachers' creativity in Guangxi, China

1) Analysis of the internal environment

1.1) Based on the analysis of the desirable state of the internal environment, the findings indicate that the overall picture of creative leadership by primary school principals to promote teachers' creativity in Guangxi, China is at the highest level (M = 4.81, SD = 0.36). When considering each aspect,

facilitating the creative abilities of every teacher of school has the highest mean value (M = 4.82, SD = 0.35), followed by forming and facilitating dynamic creative teacher teams (M = 4.81, SD = 0.38) and promoting a school culture of innovation (M = 4.81, SD = 0.40), respectively.

1.2) Based on the analysis of each aspect, the findings indicate that:

1.2.1) the aspect of facilitating the creative abilities of every teacher at school is at the highest level (M = 4.82, SD = 0.35) when considering each item, engaging every teacher using their creative potential in teaching has the highest mean value (M = 4.83, SD = 0.38), then providing every teacher learning opportunities to enhance creativity in teaching (M = 4.82, SD = 0.39) and energizing every teacher's imagination for teaching (M = 4.80, SD = 0.40) respectively.

1.2.2) the aspect of forming and facilitating dynamic creative teacher teams is at the highest level (M = 4.81, SD = 0.38), while facilitating collaboration in teacher teams has the highest mean value when considering each item (M = 4.82, SD = 0.39), followed by offering time for teacher teams to work on their passion (M = 4.80, SD = 0.43) and facilitating diversity in teacher teams (M = 4.80, SD = 0.44), respectively.

1.2.3) the aspect of promoting a school culture of innovation is at the highest level (M = 4.81, SD = 0.40), while promoting a flexible school culture has the highest mean value when considering each item (M = 4.82, SD = 0.41), followed by forming creative school workspaces (M = 4.81, SD = 0.41) and promoting an inquiring school culture (M = 4.79, SD = 0.46), respectively.

2) Analysis of the external environment

From the analysis of the desirable state of the external

environment, the findings reveal the overall picture of creative leadership by primary school principals to promote teachers' creativity in Guangxi, China is at the highest level (*M* = 4.79, *SD* = 0.38). When considering each aspect, the socio-cultural factor has a highest mean value (*M* = 4.79, *SD* = 0.38), followed by the political and government policy factor (*M* = 4.79, *SD* = 0.48), the economic factor (*M* = 4.78, *SD* = 0.38) and the technological factor (*M* = 4.78, *SD* = 0.39), respectively.

Discussions

1. The roles of creative leadership by primary school principals to promote teachers' creativity.

The roles of creative leadership mostly developed and synthesized by Robinson (2011) and Stoll and Temperley (2009) are used in a conceptual framework, including 1. Personal: To facilitate the creative abilities of every teacher of the school: 1.1 Engage every teacher using their creative potential in teaching, 1.2 Energize every teacher's imagination for teaching, 1.3 Provide learning opportunities to enhance creativity in teaching; 2. Group: To form and facilitate dynamic creative teacher teams: 2.1 Facilitate diversity in teacher teams, 2.2 Facilitate collaboration in teacher teams, 2.3 Offer time for teacher teams to work on their passion; 3. Culture: To promote a school culture of innovation: 3.1 Promote a flexible school culture, 3.2 Promote an inquiring school culture, and 3.3 Create creative school workspaces.

These roles of creative leadership are necessary for primary school principals to promote teachers' creativity. According to the study of Stoll and Temperley (2009), it is confirmed that primary school principals who adopt the roles of creative leadership can create the right conditions, structure and culture in which teachers' creativity can thrive. According to the research study of

Mainemelis et al. (2015), there are three conceptualizations of creative leadership. One of the three conceptualizations of creative leadership focuses on the organisational leader's role in fostering the creativity of others in the organisational context. Additionally, Basadur (2004) stated that individuals, teams, and organisations differ in their creative problem-solving styles. Creative leaders can help individuals and teams to coordinate and integrate their differing styles to drive change through a process of applied creativity. Levesque (2011) also demonstrated that creative leadership development is essential for any organisational leader to improve and maximize colleagues' creative contributions to the organisation (Zhang & Zhang, 2011).

2. The current state and the desired state of creative leadership by primary school principals to promote teachers' creativity in Guangxi, China

2.1 Analysis of the internal environment

2.1.1 Based on the research findings of the current state of the internal environment, the overall picture of creative leadership by primary school principals to promote teachers' creativity in Guangxi, China is at a middle level, as well as each aspect. When considering each aspect, facilitating the creative abilities of every teacher at school has the highest mean value, while forming and facilitating dynamic creative teacher teams has the lowest mean value. This is probably because facilitating the individual creativity of each teacher is much easier than forming and facilitating the team creativity of teachers. Besides, the school principals may lack awareness and leadership in facilitating diversity and collaboration in teacher teams. According to the research of Zhang and Zhang (2011) on primary and high school teacher cooperation over the past thirty years, it was indicated that there are many problems in cooperation among teachers, such as the teachers working alone, lack of awareness, motivation, skills and habits in collaboration; teacher collaboration

is limited by time, environment and other factors; and the school uses insufficient emphasis and lacks guidance on education and scientific research. The research findings were also indicated that the reconstruction of the teachers' cooperation still needs to be driven by external forces, especially the support and encouragement of the school leaders (Zhang, 2007).

2.1.2 Based on the research findings of the desirable state of the internal environment, the overall picture of creative leadership of primary school principals to promote teachers' creativity in Guangxi, China is at the highest level, as well as each aspect. The findings imply that the school principals should improve creative leadership in developing the individual and team creativity of teachers, and creating an innovative school culture to foster students' creative learning. The concept of creative leadership is supported by Robinson (2011), and Stoll and Temperley (2009). They demonstrated that the school leader must become a creative leader in order to promote creativity and innovation in school; and being a creative leader involves strategic roles in three areas of focus: 1) to facilitate the creative ability of every teacher of the school, 2) to form and facilitate dynamic creative teacher teams, and 3) to promote a school culture of innovation. Within each of these is not a linear phase or step, but it is an organic process that should feed into each other in a continuous cycle of mutual enrichment. The demand for creative leadership in three areas is because everyone in an organisation is capable of contributing creative ideas to its development, more often than not creativity in organisations is driven by teams, where there is a flow of ideas between people who have different areas of expertise. Moreover, the quality of the creative work by individuals and groups is deeply enmeshed in the general culture of the organisation as a whole. Therefore, the school principals should improve creative leadership in developing the individual and team creativity of teachers by

creating an innovation culture to cultivate students' creativity.

When considering each aspect, facilitating the creative abilities of every teacher at school has the highest mean value. The findings further imply that, although in the current state every teacher feels supported by their leaders to develop creative abilities to foster students' creativity, the level of individual creativity development may be insufficient and they may want to have more engagement, encouragement and learning opportunities to develop their creativity in teaching. Robinson (2011) stated that, "everyone has creative potential" because everyone in an organisation has different experiences of how it works and potentially valuable insights on how it might be improved. Thus, the school principals should engage every teacher using their creative potential in teaching. Additional, "innovation is the child of imagination" because a good deal of creative work, especially in the early stages, is about openly playing with ideas, riffing, doodling, improvising and exploring new possibilities. Therefore, nourishing every teacher's imagination is an essential part of growing a culture of innovation. Moreover, "we can all learn to be more creative" because there are techniques, procedures and practical skills that can be taught to most people that will facilitate some sort of creative activity. Additionally, professional development is a vital approach to master the general skills of creative thinking (including how to work in creative teams). Consequently, the school principals should provide learning opportunities to develop techniques and skills in creative teaching.

2.2 Analysis of the external environment

2.2.1 Based on the research findings of the current state of the external environment, the overall picture of creative leadership by primary school principals to promote teachers' creativity in Guangxi, China is at a moderate level, as well as each aspect. This is probably because of the

insufficient policy, budget and learning materials as well as the lack of active parental and community involvement, which are corresponded with the research study on curriculum leadership of rural primary school principals in Guangxi by Cui (2015). According to his research study, one of the findings indicated that the educational system, the department of educational administration, parents and community affect the development of curriculum leadership by school principals.

When considering each aspect, the political and government policy factor has the highest mean value, which is probably because of the political and government value of the creative leadership development for primary school principals in promoting teachers' creativity. According to the National Medium and Long-term Plan for Science and Technology Development 2006-2020, the goal is to build an innovation-oriented country for national sustainable development (Cao et al., 2006). To achieve this goal, the key is to cultivate creative talents that rely on innovative education (Gu et al., 2009; Xiwei & Xiangdong, 2007). Besides, one of the urgent tasks of the National Plan for Medium and Long-term Education Reform and Development (2010-2020) is to develop students' creativity and cultivate innovative talents (Zhang, 2012). The school principal is the foundation for the implementation of education reform, while the teachers are the practitioners of deepening the education reform (Ma et al., 2014). Therefore, the government should make policy and offer support to primary schools for fostering students' creativity.

It was also found that the economic factor has the lowest mean value, which is probably because the economic state of Guangxi is still at a low level. As such, it might not support adequate budget and resources in educational development. This finding is corresponded with the research study on curriculum leadership of rural primary school principals in Guangxi by Cui (2015). According

to his research study, many school administrators mentioned that insufficient budget and learning materials are an apparent problem for school management. The responses from the Focus Group also describe one of the problems for the school management is the insufficient budget, especially in the remote-area schools; there is inadequate budget and little to no educational resource support.

2.2.2 Based on the research findings of the desirable state of the external environment, the overall picture of creative leadership by primary school principals to promote teachers' creativity in Guangxi, China is at the highest level, as well as each factor, while the desirable state of each factor is fairly close. The findings imply that the school principals and teachers may want to gain more support from the political and government policy, as well as economic, socio-culture and technological factors to develop creative teaching and learning. When considering each aspect, the socio-cultural factor was found to have the highest mean value. The research finding implies that socio-culture support alone may not be sufficient and adequate for the schools' needs. Further, there are more demands to employ the socio-culture support in creative leadership development to promote teachers' creativity in Guangxi. The demands for socio-culture are supported by the research study of Chu & Cravens (2012), Huang & Wiseman (2011), and Jarvis (2015). The findings of their research indicated that active parental and community involvement are found to increase the effectiveness of the principal leadership development. Besides, Jurevicius (2013) stated that socio-cultural factors including educational level, attitudes, beliefs, average disposable income level and family structure may affect the activities and performance of an organisation.

References

Afshari, M., Ghavifekr, S., Parhizkar, S., & Ayoufu, W. (2013). Relationship between transformational leadership behaviours of lecturers and students' creativity. *Malaysian Online Journal of Educational Management*, *1*(2), 33-40. https://mojem.um.edu.my/article/view/6161/3865

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, *39*(5), 1154-1184.

Basadur, M. (2004). Leading others to think innovatively together: Creative leadership. *The Leadership Quarterly*, *15*(1), 103-121.

Cao, C., Suttmeier, R. P., & Simon, D. F. (2006). China's 15-year science and technology plan. *Physics Today*, *59*(12), 38-43.

Chu, H., & Cravens, X. C. (2012). Principal professional development in China: Challenges, opportunities, and strategies. *Peabody Journal of Education*, *87*(2), 178-199.

Colley, K. M. (2015). *Cultivating creativity: The practice of teaching for creativity in the elementary classroom* [Doctoral dissertation]. Digital Commons @ DU. https://digitalcommons.du.edu/etd/134/

Craft, A., Cremin, T., Hay, P., & Clack, J. (2014). Creative primary schools: Developing and maintaining pedagogy for creativity. *Ethnography and Education*, *9*(1), 16-34.

Cui, N. (2015). On curriculum leadership of rural primary school principals in Guangxi. Guangxi Teachers Education University. (崔乃超. (2015). 广西农村小学校长课程领导力研究 . 广西师范学院.)

Feng, D. (2006). China's recent curriculum reform: Progress and problems. *Planning and Changing*, *37*(1/2), 131-144.

Gu, M. (1999). Basic education and innovation spirit. *The Chinese Society of Education*, (2), 23-23. (顾明远. (1999). 基础教育与创新精神. 中国教育学刊, (2), 23-23.)

Gu, M. (2010). A blueprint for educational development in China: A review of "the national guidelines for medium-and long-term educational reform and development (2010–2020)". *Frontiers of Education in China*, *5*(3), 291-309.

Gu, S., Lundvall, B.-Å., Liu, J., Malerba, F., & Schwaag Serger, S. (2009). China's system and vision of innovation: An analysis in relation to the strategic adjustment and the medium-to long-term S&T development plan (2006–20). *Industry and Innovation*, *16*(4-5), 369-388. https://doi.org/10.1080/13662710903053631

Harris, A. (2009). Creative leadership: Developing future leaders. *Managing Education*, *23*(1), 9-11. https://journals.sagepub.com/doi/pdf/10.1177/0892020608099076

Hewitt, D., & Tarrant, S. (2015). *Innovative teaching and learning in primary schools*. SAGE.

Huang, T., & Wiseman, A. W. (2011). The landscape of principal leadership development in Mainland China: An analysis of Chinese and English research. In T. Huang, & A. W. Wiseman (Eds.), *The impact and transformation of education policy in China (International perspectives on education and society)* (Vol. 15, pp. 125-151). Emerald Group. https://doi.org/10.1108/S1479-3679(2011)0000015009

Jarvis, T. L. (2015). *A mixed-methods analysis on creative leadership and Missouri school administrators* [Doctoral dissertation, Lindenwood University]. PQDT OPEN. https://pqdtopen.proquest.com/doc/1733692410.html?FMT=ABS

Jurevicius, O. (2013). PEST & PESTEL analysis,". *Strategic Management Insight*, *13*, 2013.

Levesque, L. (2011). *Breakthrough creativity: Achieving top performance using the eight creative talents*. Nicholas Brealey.

Ma, Q., Luo, Q., & Liang, K. (2014). Strategies to improve the professional quality of rural primary school teachers. *Guangxi Education*, (45), 20-20. (马启悦, 罗庆文, & 梁科劲. (2014). 提高农村小学教师专业素养的策略. 广西教育, (45), 20-20.)

Mainemelis, C., Kark, R., & Epitropaki, O. (2015). Creative leadership: A multi-context conceptualization. *The Academy of Management Annals*, *9*(1), 393-482.

National Advisory Committee on Creative and Cultural Education. (1999). *All our futures: Creativity, culture and education*. HMSO London.

Peterson, F. J. (2013). *Creative leadership signposts in higher education: ...Turn left at the duck pond!*. Springer Science & Business Media.

Qian, H., & Walker, A. (2011). Leadership for learning in China: The political and policy context. In T. Townsend, & J. MacBeath (Eds.), *International handbook of leadership for learning* (pp. 209-223). Springer. https://doi.org/10.1007/978-94-007-1350-5_14

Robinson, K. (2006, February). *Do schools kill creativity?*. TED Talks. https://www.ted.com/talks/sir_ken_robinson_do_schools_kill_creativity/transcript?language=en

Robinson, K. (2009). *The element: How finding your passion changes everything*. Penguin.

Robinson, K. (2011). *Out of our minds: Learning to be creative*. John Wiley & Sons.

Robinson, K., & Aronica, L. (2015). *Creative schools: The grassroots revolution that's transforming education*. Penguin.

Siribanpitak, P. (2012). *Education management for sustainable development: The basic study of the economic, social and environment*. Chulalongkorn University.

Sternberg, R. J. (2006). The nature of creativity. *Creativity Research Journal*, *18*(1), 87-98.

Stoll, L., & Temperley, J. (2009). Creative leadership: A challenge of our times. *School Leadership and Management*, *29*(1), 65-78.

Tian, Y. (2007). A study on the classroom environment and the cultivation of students' creativity in primary and secondary schools. *Tianjin Normal University: Basic Education*, *8*(2), 5-10. (田友谊. (2007). 中小学班级环境与学生创造力培养研究. 天津师范大学学报: 基础教育版, *8*(2), 5-10.

United Nations Development Programme. (2013). *Creative economy report 2013 – special edition: Widening local development pathways*. United Nations Development Programme.

Wang, J. (2010). *The school system and the development of students' creativity* [Unpublished doctoral dissertation]. East China Normal University. (王佳佳. (2010). 论学校制度与学生创造力的发展 [Unpublished doctoral dissertation]. 华东师范大学).

Wang, J. (2011). The educational value orientation of creativity development. *Nanjing Journal of Social Sciences*, (7), 127-131. (王佳佳. (2011). 论创造力发展的教育价值导向. 南京社会科学, (7), 127-131.)

Wei, F. (2015). Cause analysis and countermeasures for students lacking innovation in minority areas. *Guangxi Education*, (17), 8-9. (韦凤. (2015). 少数民族地区学生创新不足的原因分析及对策. 广西教育, (17), 8-9.)

Wu, H., Lin, Z., & Xie, C. (2010). The four major disadvantages of primary school principals in underdeveloped areas. *Education Research Monthly*, (8), 49-51. (吴海峰, 林志雄, & 谢存德. (2010). 欠发达地区小学校长的四大弱势. 教育学术月刊, (8), 49-51.)

Xiwei, Z., & Xiangdong, Y. (2007). Science and technology policy reform and its impact on China's national innovation system. *Technology in Society*, *29*(3), 317-325.

Zhang, H., & Zhang, J. (2011). On the primary and high school teacher cooperation over the past thirty years. *Hebei Normal University/ Educational Science Edition*, *13*(4). (张华龙, & 张菊风. (2011). 三十年来我国中小学教师合作研究的梳理与反思. 河北师范大学学报/教育科学版, *13*(4).)

Zhang, Q. (2007). A preliminary study on teacher cooperation. *Success (Education)*, (3), 94-94.

Zhang, W. (2012). On school culture and students' creativity development. *The Chinese Society of Education*, (2), 7-11. (张武升. (2012). 试论学校文化与学生创造力开发. 中国教育学刊, (2), 7-11.)