Teachers development model for learning management to enhance cognitive skills
And happiness in learning of primary students

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Abstract

The objectives of this research were to develop a teacher development model for learning management to enhance cognitive skills and happiness in learning of primary students. This research methodology has 4 phases. The first phase was an analysis of baseline data, create a model and preliminary quality checking by experts. The second phase was a pilot study. The third phase was an implementation model with samples. And the fourth phase was evaluating the effectiveness of the model. The samples consisted of teachers and learners in primary schools in Suphanburi province amount 77 people were selected by volunteer sampling. The instruments for data collection consist of 1) test the knowledge teachers in learning management to enhance cognitive skills and happiness in learning, 2) assessment form of teacher's learning management to enhance cognitive skills and happiness in learning, 3) self – report of teacher’s learning management to enhance cognitive skills and happiness in learning, 4) student’s cognitive skills test and 5) measurement form of happiness in learning of students.

The results showed that, a teacher development model for learning management to enhance cognitive skills and happiness in learning of primary students include: 1) principles 2) purposes 3) procedure and activities 4) media 5) evaluation 6) supporting factors and 7) conditions for success.

For the procedure and activities of the model consist of five stages based on Professional Learning Community: PLC: 1) stimulates love 2) knowledge sharing 3) apply in school 4) experience sharing and 5) learn and develop together.

Finally, a teacher development model for learning management to enhance cognitive skills and happiness in learning of primary students has effected.

Keywords: teacher development model, cognitive skills, happiness in learning
Introduction

Today our society is more complexity. Every person has to learn and think for their working effectiveness. Students have to prepare for the future skills such as learning how to learn, higher order thinking (analytical thinking, critical thinking, creative thinking, system thinking). They should learn and improve themselves every day. (Anderson. & Krathwohl. 2001, North Central Regional Educational Laboratory and the Mitiri Group. 2003, Partnership for 21st century skills. 2009, Pearson. 2012)

The most important factor of learning and thinking ability is cognitive skills. Cognitive skills is the cause of human's learning ability. Who have cognitive skills better, they can learn faster than lower cognitive skills. In neuroscience, the growth of cognitive skills can prepare for children when they was born by provide various experiences such as seeing, hearing, touching, tasting. (Bloom. 1956, Anderson. & Krathwohl. 2001, Barrs. and Gage. 2010, Woolfolk. 2013)

Cognitive skills are the processes of the brain or mental process someone call “the actions of the brain”. It works when human interaction with some information. In general, cognitive skills consist of 1) perception 2) attention 3) memory 4) language and 5) thinking. All of them are relationship and work together. Valsiner. and Connolly. 2003, Barrs. and Gage. 2010, Eggen. and Kauchak. 2013)

In the education, students have to develop the cognitive skills from their parents and teachers continually because their brain can learn every thing very fast. Teacher should to enhance the cognitive skills of students by 1) design learning activities based on student’s need and natural 2) provide learners have various experiences 3) start learning activities from holistic view and then link the concepts to real life 4) provide students continually interact with environment 5) motivate students for set the learning goals and learning process by themselves 6) use various learning process such as investigation, self – learning, sharing and generalizing the concepts 7) adapt learning activities for student’s natural and 8) evaluation by using authentic assessment. (Jennifer. and other. 2001, Fernando. 2003, DuFour. & Many. 2006, Jasper, 2006, Fegger. & Arruda. 2008, National Professional Development Center. 2008, The Organization for Economic Co-operation and Development. 2009, Mizell. 2010, Marzano Research Laboratory. 2012, Pearson. 2012, DeMonte. 2013)
The happiness in learning is the good feeling of students toward learning activities that they finish something. Happiness is the important for student learning because it supports the brain relax. When the brain relaxes, alpha wave is occurring that suitable for learning. When students happy they will 1) want to learn and participate in classroom activities 2) enjoy during learning 3) want to collaborate with teachers and friends 4) want to improve themselves. The happiness is support learning, when learners happy they can learn everything. Learning management for enhancing happiness are 1) provide various learning activities that suitable for them 2) mentoring and coaching the students learn more continually 3) focus on student’s behaviors and reinforce them to learn 4) provide a suitable learning environment 5) use power questions to stimulate the inspire of learning 6) adjust learning activities properly for students and 7) evaluation by authentic assessment approach and provide positive feedback. (Jennifer. and other. 2001, Fernando. 2003, DuFour. & Many. 2006, Jasper, 2006, Fegger. & Arruda. 2008, National Professional Development Center. 2008, The Organization for Economic Co-operation and Development. 2009, Mizell. 2010, Marzano Research Laboratory. 2012, Pearson. 2012, DeMonte. 2013)

The 21st century of the teacher’s skills is cognitive coaching, cognitive coaching is the brain guiding to think and learn. If teachers can use cognitive coaching then students can develop cognitive skills too. Teacher development model in this research will useful for educators who want to develop teacher’s learning management to enhance cognitive skills and happiness in learning of primary students. Trilling. and Fadel. 2009, Barrs. and Gage. 2010, Eggen. and Kauchak. 2013, Valsiner. and Connolly. 2003)

Objectives

1. Develop teacher development model for learning management to enhance cognitive skills and happiness in learning of primary students.

2. Study the effectiveness of the teacher development model for learning management to enhance cognitive skills and happiness in learning of primary students.
Methods

Phase 1st Study based line data

This phase was study the important and necessary data for design teacher development model for learning management to enhance cognitive skills and happiness in learning of primary students.

Phase 2nd Design model and try out

This phase was design teacher development model for learning management to enhance cognitive skills and happiness in learning of primary students. Then examine primarily quality by academic experts. Then, pilot trail the model with teachers and students in Watsamjun school and improve model before using with samples.

Phase 3rd Using a model with samples

This phase was implemented teacher development model for learning management to enhance cognitive skills and happiness in learning of primary students with 31 teachers and 46 students in Watpayna school, Watponaruomitr school, and Bangplama school were selected by volunteer sampling. Implement model during the 2nd semester, academic year 2556.

The instruments were 1) test of teacher's knowledge in learning management to enhance cognitive skills and happiness in learning, reliability was 0.92 2) assessment form of teacher's learning management to enhance cognitive skills and happiness in learning, reliability was 0.96 3) self – report of teacher’s learning management to enhance cognitive skills and happiness in learning 4) student’s cognitive skills test, reliability was 0.88 and 5) measurement form of happiness in learning of students, reliability was 0.92.

Phase 4th Evaluate the effectiveness of model

This phase was evaluate the effectiveness of teacher development model for learning management to enhance cognitive skills and happiness in learning of primary students. Data analysis consist 1) compared mean scores of teacher’s knowledge about learning management to enhance cognitive skills and happiness in learning before and after model implementation 2) compared mean scores of teacher’s ability about learning
management to enhance cognitive skills and happiness in learning before and after model implementation 3) compared mean scores of student’s cognitive skills before and after model implementation 4) computed mean scores and standard deviation of student’s happiness in learning.

Results and discussion

The results of this research showed follow:

1) The results of comparing mean scores of a teacher’s knowledge about learning management to enhance cognitive skills and happiness in learning before and after model implementation.

Table 1 The results of comparing mean scores of a teacher’s knowledge about learning management to enhance cognitive skills and happiness in learning before and after model implementation.

<table>
<thead>
<tr>
<th>variable</th>
<th>sources</th>
<th>statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>teacher’s knowledge</td>
<td>before</td>
<td>20.74, 3.99, 12.75, 30, .00</td>
</tr>
<tr>
<td>(maximum 34 point)</td>
<td>(N = 31)</td>
<td>(N = 31)</td>
</tr>
<tr>
<td>after</td>
<td>31.10, 2.57</td>
<td></td>
</tr>
</tbody>
</table>

From table 1, teacher’s knowledge about learning management to enhance cognitive skills and happiness in learning after model implementation was higher than before statistical significant at .01 level.
2) The results of comparing mean scores of the teacher's ability about learning management to enhance cognitive skills and happiness in learning before and after model implementation.

Table 2  The results of comparing mean scores of the teacher's ability about learning management to enhance cognitive skills and happiness in learning before and after model implementation.

<table>
<thead>
<tr>
<th>variable</th>
<th>sources</th>
<th>statistics</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>teacher's ability</td>
<td>before (N = 31)</td>
<td>38.10</td>
<td>10.83</td>
<td>7.58</td>
<td>30</td>
<td>.00</td>
</tr>
<tr>
<td>(maximum 70 point)</td>
<td>after (N = 31)</td>
<td>48.71</td>
<td>8.96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From table 2, teacher’s ability about learning management to enhance cognitive skills and happiness in learning after model implementation was higher than before statistical significant at .01 level.

3) The results of comparing mean scores of student’s cognitive skills before and after model implementation.

Table 3  The results of comparing mean scores of student’s cognitive skills before and after model implementation.

<table>
<thead>
<tr>
<th>variable</th>
<th>sources</th>
<th>statistics</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>cognitive skills</td>
<td>before (N = 46)</td>
<td>11.93</td>
<td>2.69</td>
<td>11.67</td>
<td>45</td>
<td>.00</td>
</tr>
<tr>
<td>of students</td>
<td>after (N = 46)</td>
<td>15.28</td>
<td>2.84</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From table 3, cognitive skills of students after model implementation was higher than before statistical significant at .01 level.
4) The results of computing mean scores and standard deviation of student’s happiness in learning.

Table 4  The results of computing mean scores and standard deviation of student’s happiness in learning.

<table>
<thead>
<tr>
<th>Items</th>
<th>Lists</th>
<th>$\bar{X}$</th>
<th>S.D.</th>
<th>Interpret</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>feel like when get award from teachers</td>
<td>4.78</td>
<td>0.47</td>
<td>very much</td>
</tr>
<tr>
<td>2</td>
<td>feel like when get appreciate from friends</td>
<td>4.43</td>
<td>0.58</td>
<td>much</td>
</tr>
<tr>
<td>3</td>
<td>feel like when get sweetly speaking</td>
<td>4.76</td>
<td>0.43</td>
<td>very much</td>
</tr>
<tr>
<td>4</td>
<td>feel like when get gifts from the teachers</td>
<td>4.74</td>
<td>0.44</td>
<td>very much</td>
</tr>
<tr>
<td>5</td>
<td>like to help your friends</td>
<td>3.85</td>
<td>0.60</td>
<td>much</td>
</tr>
<tr>
<td>6</td>
<td>like to guide your friends</td>
<td>3.93</td>
<td>0.71</td>
<td>much</td>
</tr>
<tr>
<td>7</td>
<td>like to give materials for your friends</td>
<td>4.07</td>
<td>1.02</td>
<td>much</td>
</tr>
<tr>
<td>8</td>
<td>like to appreciate your friends</td>
<td>3.50</td>
<td>0.84</td>
<td>much</td>
</tr>
<tr>
<td>9</td>
<td>like to develop by yourself</td>
<td>4.39</td>
<td>0.98</td>
<td>much</td>
</tr>
<tr>
<td>10</td>
<td>like to attend class on time</td>
<td>4.76</td>
<td>0.67</td>
<td>very much</td>
</tr>
<tr>
<td>11</td>
<td>want to do homework</td>
<td>4.67</td>
<td>0.60</td>
<td>very much</td>
</tr>
<tr>
<td>12</td>
<td>want to have knowledge</td>
<td>4.76</td>
<td>0.60</td>
<td>very much</td>
</tr>
<tr>
<td>13</td>
<td>want to do learning activities</td>
<td>4.00</td>
<td>0.92</td>
<td>much</td>
</tr>
<tr>
<td>14</td>
<td>want to share idea</td>
<td>3.65</td>
<td>0.67</td>
<td>much</td>
</tr>
<tr>
<td>15</td>
<td>want to do for public benefits</td>
<td>3.91</td>
<td>0.63</td>
<td>much</td>
</tr>
<tr>
<td>16</td>
<td>control your emotion and thinking</td>
<td>3.43</td>
<td>0.78</td>
<td>moderate</td>
</tr>
<tr>
<td>17</td>
<td>release something that gets your unhappy</td>
<td>3.65</td>
<td>0.79</td>
<td>much</td>
</tr>
<tr>
<td>18</td>
<td>aware of your mission as student</td>
<td>4.33</td>
<td>0.76</td>
<td>much</td>
</tr>
<tr>
<td>19</td>
<td>decision making based on reason</td>
<td>3.33</td>
<td>1.01</td>
<td>moderate</td>
</tr>
<tr>
<td>20</td>
<td>critically check your think before doing</td>
<td>3.57</td>
<td>0.72</td>
<td>much</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Items</th>
<th>Lists</th>
<th>$\bar{X}$</th>
<th>S.D.</th>
<th>Interpret</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td>4.13</td>
<td>0.88</td>
<td>much</td>
</tr>
</tbody>
</table>

From table 4, mean scores of happiness in learning of students after model implementation was equal 4.13 and standard deviation equal 0.88, which is in high level.
In addition, students informed that they have happiness in learning when 1) learning practice with teacher and friends 2) get the opportunity to work and share 3) get trust from teachers 4) get knowledge and skills from teachers 5) get opportunity to online learning 6) get participate in learning assessment.

From this research, a teacher development model for learning management to enhance cognitive skills and happiness in learning of primary students can illustrate follow.

Figure 1  Teacher development model for learning management to enhance cognitive skills and happiness in learning of primary students
Discussion

Teacher's knowledge and ability in learning management to enhance cognitive skills and happiness in learning after model implementation was higher than before statistical significant at .01 level because researcher used professional learning community for developing teachers. Teachers learned and shared their knowledge and experiences in developing learning management continually. They learned the concepts of learning management for enhancing cognitive skills and happiness in learning from workshop, seminar, learned from the expert by feed – up and feedback and feed - forward, and then they applied to their classroom. For professional learning community, when teachers apply the concepts in the classroom, then they learned more and when they shared with other teachers they learned more too. The professional learning community provided teachers learn from best practice that can apply in their classroom. The professional learning community was the most important of this model because it provided opportunities for teachers learning and develop the ability of learning management for enhancing cognitive skills and happiness in learning. (National College for School Leadership. 2003, Villegas-Reimers. 2003, Thompson, Gregg and Niska. 2004, Bolam. 2005, National Mentoring Partnership. 2005, Stool. Louis. 2006, Reichstetter. 2006, Degraffenreidt. and other. 2008, Protheroe. 2008, Marzano Research Laboratory. 2012, Desta and other. 2013)

In addition, teachers used lesson – learned for improving learning management every day and synthesized for sharing with their friends. Many teachers said that “... it is the very best activity we learn more from our friends and we can give the good techniques of learning management for our friends...”. Lesson – learned is the instrument for learning and development continually through reflective thinking, critical thinking, self – dialogue, and creative problem solving. Because teachers used lesson – learned as a result, they can develop.

Likewise, feed – up, feedback, and feed – forward were provided by educational academician help teachers improved their learning management based on empirical data and get useful guidelines. Feed – up was motivated teachers want to develop their learning management quality. Teachers who get feed – up they will have self – confidence to learn and create learning innovations. In this research, researcher used feed – up during model implementation by providing the concepts of learning management for enhancing cognitive
skills and happiness in learning, and guideline books such as “Cognitive Coaching”, “Learning Management to Enhance Cognitive Skills and Happiness”, Classroom Action Research”. Teachers studied this book and applied to the classroom. Therefore, they gained more knowledge and experiences in learning management for enhancing cognitive skills and happiness in learning. For feedback, researcher used for informed the important information to teachers such as the quality of lesson plans, the quality of learning activities, the quality of learning assessment. During feedback, the researcher used various methods for communicated with teachers such as positive communication, reflective dialogue, deep listening. Teachers who get feedback can improve the effectiveness of their learning management by themselves. For feed – forward, the researcher used for enhancing self – learning of teachers. Feed – forward techniques such as empowerment, point the benefit, and guide the resources were provided to teachers continually. Teachers who get feed – forward, they were happy and want to improve the quality of learning management, and create learning management innovation for their students. (Clutterbuck. 1994, Lashley. 2001, Costa. and Kallick. 2004, Shute. 2007, Phillipy. 2008, The Organization for Economic Co-operation and Development. 2009, Australian Early Childhood Mental Health Initiative. 2013, Boyle. and Charles. 2013)

In addition, Mentoring and coaching was provided to teachers to improve and develop the effectiveness of learning management continually. During supervised at the school, the researcher provided mentoring and coaching by gave guidelines, instructions, examples, consults, and resources for teachers. Mentoring and coaching is the important for teachers development because it’s based on empirical data and immediately response the teachers need. While mentoring and coaching, the researcher used many techniques for communicated with teachers, there are reflective dialogue, deep listening, empowering, feed – up, feedback, and feed – forward. Teachers who have mentored and coach, they will confidence to design or create learning management innovation for enhancing cognitive skills and happiness in learning. (Clutterbuck. 1994, Lashley. 2001, Spencer. 2004, Daniel. 2006, Seltzer. 2006, Reilly. 2008, Lofthouse and Towler. 2010, State of Victoria. 2010, Lloyd. and Modlin. 2012, Treasure. 2013)
Finally, presentation of teachers about their learning management on the last workshop seminar supported their learning how to enhance cognitive skills and happiness in learning for students. The last activity was teachers joined to lesson – learned about how to learning management for enhancing cognitive skills and happiness in learning that cause deep knowledge for them.

For the students, their cognitive skills were higher than before model implementation because they learned from the cognitive coaching teachers. The cognitive coaching teachers were used power questions for enhancing cognitive skills of students. Students who gained the power questions from their teachers have to think critically about finding the collect answers by themselves. In addition, cognitive coaching teachers were supported student to practice cognitive skills such as perception, memory, attention, language, and though by integrating in learning activities. Students learned subject matters and developed cognitive skills together. (Spencer. 2004, Daniel. 2006, Seltzer. 2006, Reilly. 2008, Lofthouse and Towler. 2010, State of Victoria. 2010, Lloyd. and Modlin. 2012, Treasure. 2013)

Using feed – up, feedback, and feed – forward of teachers enhance cognitive skills of students effectively. When teachers feed – up, students are known the learning outcomes, activities, and motivation to do everything effectively. (Costa and Kallick. 2004, Boyle and Charles. 2013) For feedback, students used for guidelines to improve their learning through analysis thinking, critical thinking, and creative thinking. Feedback will effectively when teachers use positive communication. As well as feed – forward, teachers gave some guidelines and motivated students to learn more. Students who received feed – up, feedback, and feed – forward from their teachers can learn and develop the cognitive skills by themselves continuously. For the happiness in learning, students participated in learning design, setting the learning outcomes, learning activities, and learning assessment. And when students learned anything from shared and collaborated the emotion of them were relaxed and freedom. There were the causes of happiness in learning of students.
Conclusion

The model for teacher development for learning management to enhancing the cognitive skills and the happiness in learning of elementary school students has effected.

1. The mean scores of knowledge about learning management to enhancing the cognitive skills and the happiness in learning after using model higher than before statistically significant at .01 level.

2. The mean scores of learning management ability to enhancing the cognitive skills and the happiness in learning after using model higher than before statistically significant at .01 level.

3. The mean scores of cognitive skills of learners after using model higher than before statistically significant at .01 level.

4. The mean scores of happiness in learning of students after using model was equal 4.13 and standard deviation equal 0.88, which is in high level.

Acknowledgements

The researcher would like to thank the teachers and students at Watsamjun school, Watpayna school, Watponaruomitr school, and Bangplama school for their participation in this study.

References.


