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## ข้อความแห่งการริเริ่ม

- 1) วิทยานิพนธ์นี้ได้นำเสนอวิธีการใหม่โดยใช้การสอนคำศัพท์ออนโทโลยีของกลุ่มคำทางวิทยาศาสตร์ ในการถ่ายทอดความรู้ และเทคโนโลยีที่เหมาะสมไปยังชุมชนที่คนส่วนใหญ่มีความรู้ขั้นพื้นฐานไม่เพียงพอในการเข้าใจความรู้ทางวิทยาศาสตร์ซึ่งเป็นเหตุเป็นผล โดยความรู้ทางวิทยาศาสตร์นี้จะทำให้เกิดการพัฒนาชุมชนแก้ปัญหาสามารถแสวงหาความรู้ใหม่และพึ่งตนเองนำไปสู่การพัฒนาอย่างยั่งยืน
- 2) เพื่อสร้างแบบจำลองการเรียนรู้ที่มีพื้นฐานการสอนคำศัพท์ออนโทโลยีของกลุ่มคำทางวิทยาศาสตร์ ที่ใช้ได้จริง โดยมีการทดลองใช้แบบจำลองการเรียนรู้ในสถานการณ์จริงกับชุมชน เพื่อให้เกิดการเรียนรู้และถ่ายทอดเทคโนโลยีที่เหมาะสมได้เพิ่มขึ้น และมีการวัดผลกระบวนการเรียนรู้ที่ดีขึ้น ด้วยเทคนิคการวิเคราะห์เชิงความหมายกับคำศัพท์ของพุทธพิสัยและทักษะพิสัย เพื่อให้ทราบถึง การปรับพฤติกรรมการเรียนรู้ที่ดีขึ้น และการเรียนรู้ตลอดชีวิต

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
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## STATEMENT OF ORIGINALITY

- 1) This thesis presents a new knowledge transfer model of tutorial vocabulary using ontologies based on scientific terms in Thai's curriculum of lower secondary school in order to transfer knowledge and appropriate technology knowledge to the community that most people who are lack of basic knowledge. The knowledge from appropriate technology from research or sustainable development projects are scientific knowledge, which is logical knowledge and scientific and technology knowledge need to understand and apply for developing rural community. This knowledge transfer model using tutorial ontologies could improve the non-science and technology educated people to understand, apply and create new knowledge. Moreover, the rural people who are lack of basic education could live as self-reliance and develop their community in sustainable way.
- 2) In order to improve learning process and to increase knowledge transfer of appropriate technology. Creating a knowledge transfer model of learning the basic vocabulary ontologies of scientific terms that the experimental model of learning takes place in real-world community. The measurement of learning process by semantic annotation on Bloom's Taxonomy vocabulary in order to prove ontology effectiveness and leaning process improvement of rural people. The non-science and technology educated people who have ontologies and can reasoning domain knowledge with experts' jargon improve their learning process to life-long learning.