KEYNOTE SPEECH
Constructivism: Implementing Practical Strategies for Teachers and Pre-Service Teachers

Professor Dr. R. Michael Smith[1]
[1]Professor, College of Education, Niagara University
msmith@niagara.edu

Introduction

Definition of Constructivism

In North America, we have singing groups called barber shoppers. Has anyone heard of the term, barbershop choir? This is what they look like. https://www.youtube.com/watch?v=-ZJHsT2ONEs.

Right now, you may be totally confused, and asking yourself, "What does a barbershop choir have to do with a keynote speech on Constructivism."Does anyone know the answer? And now, after the appropriate wait time (which is another constructivist strategy), here is the answer. The term "keynote speaker" actually comes from barbershop singers, because they often practiced a keynote, before singing the entire song. (http://www.ehow.com/about_5250659_definition-keynote-speaker.html). This confusion that you first experienced is sometimes referred to as a state of disequilibrium. It is often is associated with engaging students because it involves emotions which are necessary for learning to occur, and students tend to be inquisitive; wanting to know the answer to information that is unfamiliar to them. This leads us to the major premise of constructivism: "Engagement Precedes Learning".

Constructivism is a philosophy of learning founded on the premise that, by reflecting on our experiences, we construct our own understanding of the world we live in. Each of us generates our own "rules" and "mental models," which we use to make sense of our experiences. Learning, therefore, is simply the process of adjusting our mental models to accommodate new experiences (http://www.funderstanding.com/theory/constructivism/)

My co-authors and I extended this definition in our latest book (Flynn, P., Mesibov, D. Vermette, P. & Smith, R. M. (2013). *Captivating classes with constructivism* (3rded.). Potsdam, New York: Institute for Learning Center Education) to include the following: Constructivism is a "theory" of how people learn; it is not a practice, strategy, technique, or set of lessons. Constructivist theory can be a guide for a teacher as he designs lessons and reacts to student questions and work. Constructivist theory does not address what people should be learning – only how they should learn. The teacher decides the purpose of the lesson; the teacher focuses students on what she wants them to learn by assessing them on what she will hold them accountable for and letting them know this in advance, often by distribution of a *Rubric*. If a lesson is well crafted, it may allow students options which will let them pursue learning well beyond what the teacher requires – BUT NOT INSTEAD OF the *Learning Objectives* set by the teacher.

Constructivist-based lessons require a great deal of student-teacher interaction. In a well-designed constructivist lesson, the teacher assigns (or negotiates) a task that will enable students to address specific, teacher-determined, learning objectives and then the teacher scaffolds the lesson to the degree necessary to support the student. The student may also master additional learning objectives of his own choosing, but he must demonstrate a strong understanding and the ability to apply the standards identified by the teacher.

A traditional teacher like many keynote speakers ,is sometimes defined as a sage on the stage. In other words, the teacher is the person with the knowledge and presents this information to the class, usually in the form of a lecture (direct instruction). At the same time, the class is expected to listen intently without making any comment, and therefore receives no feedback as to their understanding and internalizing of the information presented.

A constructivist teacher, on the other hand, is often referred to as a guide on the side. This can be defined as a knowledgeable facilitator who is well-versed not only in the information, but also (and probably to a greater degree) in the art and science of engaging students.

What I have done during these last few minutes, is what my co-authors and I have identified as a planned intervention. It often resembles a very brief introduction (lecture) to the topic and is usually information that is new to the audience or student and relevant to the lesson.

Since my topic is about Constructivism and the implementation of Constructivist strategies and practices, and since I am a constructivist by nature, I believe that I would not be true to my craft and philosophy if I delivered the typical keynote speech which is presented by using the traditional sage on the stage (90-minute lecture) model. Therefore, audience engagement and participation will play a large part in my keynote this morning, and I will attempt to model and reflect on constructivist practices throughout our interactions.

The 17 Intentions (refer to the PowerPoint on the screen)

The overall purpose to be achieved by a teacher who integrates The 17 Intentions of an Effective Teacher in her lesson is Quality Student Achievement. An additional primary purpose is to develop in students, the habits of hard work and responsibility in pursuit of quality achievement.

The 17 Intentions can be listed in four categories:

- OWNERSHIP
- PREPARATION
- TASK-BASED LEARNING EXPERIENCES
- INSTRUCTION

The 17 Intentions of an Effective Teacher Stated as Reflective Questions

OWNERSHIP
1. Safe and nurturing environment
     How do I create a classroom environment where students feel free to think critically and express their views without fear?
2. Opportunities for success
    How do I provide every student with frequent opportunities to experience success?
3. Opportunities for public speaking
    How do I structure lessons that require and nurture public speaking, in pairs and small groups, as well as in front of the entire class?
4. Validation of student work and responses
    How do I let each student know when his or her efforts are praiseworthy?
5. Student control
    How do I involve students in decisions about how they will address my standards for student work?

PREPARATION
6. Grab students' attention
    How do I begin class so that I encourage students to look forward to what comes next?
7. Clarify learning objectives
    How do I clearly state the one, two, or three specific things I want my students to learn? How have I cast these specific objectives in terms of what my students will understand, relate to, perform or create? How are the objectives aligned with appropriate learning standards?
8. Preparing students to engage in the task (activities)
    How do I create activities that focus student thinking, excite their imaginations, and prepare them to meet and exceed the learning standards?
9. Assesses and accesses the learners' prior knowledge and perceptions
    How do I create activities that enable students and myself, to access students' prior knowledge?

TASK-BASED LEARNING EXPERIENCES
10 Authentic tasks
     How do I frame learning tasks that are as authentic as possible and that will allow students to demonstrate their skill with, or understanding of the learning objective(s)?
11. Task options
    How do I offer students optional ways to accomplish the learning task, and therefore reach the learning objectives(s)?
12. Multiple intelligences
    How do I offer students frequent opportunities to utilize their stronger intelligences (recognizing that there are going to be times when they will also have to rely on their weaker ones)?

13. Assessment measures

How do I utilize multiple forms of assessment to judge student performance, including effective use of rubrics? Is instructional improvement the primary reason I assess students? Is teacher observation structured to be the most meaningful form of assessment?

INSTRUCTION
14. Interventions

How do I look for opportunities (teachable moments) to intervene either in response to student questions or in reaction to student work, by "working the room" while students are engaged in an activity?

15. Opportunities for reflection

How do I, during a learning experience, create opportunities for students to think about their thinking, to assess their progress and their decisions thus far? Do I, at the end of each day's lesson, provide students with a brief closure activity that elicits evidence of something students have learned as a result of the lesson?

16. Cognitively rich questions

How do I seize every opportunity to intervene in student work with questions that require students to think critically; to phrase task questions that will require critical thinking; and to require students to create their own cognitively rich questions that create disequilibrium? Do I use cognitively rich questions as the basis of student reflection activities?

17. Appropriate resources

How do I ensure that the resources necessary to accomplish the assigned student-centered activities are available, or can be made available to students?

The 17 Intentions have been categorized into Ownership, Preparation, Task-Based Learning Experiences, and Instruction for ease of remembering and applying. However, it is not easy to state where in a lesson each of these "Intentions" should be fulfilled. For instance, "grab students' attention" is essential at the start of a lesson, but a teacher may need to employ this intention at other times. Affording students options, and allowing students to work, at times, with their strongest "Intelligences" can be important at any time. Reflection is always valuable at the end of a lesson, but should not be relegated solely for the wrap-up; students should be challenged to reflect throughout a lesson.

Examples from international teachers for intention #1 Provide a safe and nurturing environment Jane Jue Wong (English language professor Sand a University, Shanghai, China)

"I create an encouraging and not-so frustrating classroom environment and give them options in selecting their learning materials. I would ask them to map out their own learning plans (both short-term and long-term), keep a record of those effective and efficient learning strategies they have been using and write down (anonymously) any teaching problems in a specific class or learning problems they encounter while attending my class. Meanwhile, I also ask for their solutions to those problems, arrange peer-tutoring/assessment time and always allocate certain class time to share with them my

thoughts on all the above-mentioned topics, facilitating a real communication between the teacher and students, which to a great extent improve both teaching and learning. Gradually, students' sense of responsibility toward their own learning is nurtured and they are on the right track of becoming independent learners."
Susan Bainbridge (Professor from Ras Al Kaimah, UAE)

"I spend the first few lessons on an activity that relates to them personally. Personality tests (such as Colors) work well. Nothing is more student-centered than self-analysis. The students learn a great deal about themselves and each other, while the teacher learns about each student. Another example is to use content and language relevant to the student's world, rather than the English world. For example when talking about animals in the UAE we would talk about camels, goats, horses or cats more often than we would speak of dogs, cows, beavers, or moose."

Mike Smith (English Professor at Sanda University, Shanghai, China; Professor of Education at Niagara University, Niagara Falls, NY)

In every one of my courses, the first assignment is always an autobiography that involves the students reflecting on their life experiences and relating them to the type of teacher they want to be. The paper is to be written in the first person, three to four pages in length, and accounts for 10% of the student's final grade. This assignment promotes a safe and nurturing environment in the following ways: First, it is safe and guarantees success because the student not the teacher is the expert on the topic; second, it allows me to assess the student's higher level thinking skills and writing ability and provide assistance when needed; and third, it provides a foundation to nurture understanding, trust, and respect between the teacher and the student. I also grade the assignment by circling any spelling, punctuation or grammatical errors and I include positive comments on each paper. The following class, I assign a group research activity for the class and then meet one on one with each student to ensure that he/she understands how to correct any errors that I identified. Next, I ask the student to give himself/herself a numeric grade that is deserving of the effort and quality of the paper. I then record the higher grade be it the student's or my grade.

AUDIENCE PARTICIPATION

Once the assignment has been modeled, (examples from international educators on how they provide a safe and nurturing environment) the audience will be arranged into 16 groups (intentions #2 to #17) with at least one participant with strong English-speaking skills in each group. Participants will then brainstorm ideas to answer the question listed in the intention assigned to the group. One representative from each group will then be the spokesperson for the group and report on their answers.

Summary

For the last 60 minutes, I have attempted to model constructivist practices to engage the audience. Refer to you 17 Intentions handout, and let's take a few minutes to reflect on how I modelled each one.

Many teachers and students often ask me how Constructivist practices promote student motivation. For the last 20 years I have studied and taught motivation and classroom management, and although the text was written 30 years ago, Wlodkowski's *Motivation and teaching: A practical guide* is still as relevant now as it was three decades ago. The central focus of the book is a diagnostic motivation chart that lists six Primary Motivators, Attitudes, Needs, Stimulation, Affect, Competence, and Reinforcement; 23 Motivation Sub Factors; and 78 accompanying motivation strategies. If you refer to the 17 Intentions PowerPoint, you will see that the six Primary Motivation Factors align with one or more of the 17 Intentions.

DIAGNOSTIC MOTIVATION CHART

Source: Wlodkowski, R. J. (1986). *Motivation and teaching: A practical guide.* Washington, D.C.: National Educational Association.

#1 Motivation Factor- Attitudes

(A)   Motivation Sub factor- Attitude toward the teacher
Diagnostic Question- What are the student's perceptions and feelings toward the teacher?
Motivation Strategy- Establish a relationship with the student by sharing something of value with the student.
Motivation Strategy- Listen to the student with empathetic regard.
Motivation Strategy- Treat the student with warmth and acceptance.
Motivation Strategy- Use class or individual meetings to build relationships and better attitudes.

(B)   Motivation Sub factor- Attitude toward the subject and learning situation
Diagnostic Question- What are the student's perceptions and feelings toward the subject and the learning situation?
Motivation Strategy- Make the conditions that surround the subject positive.
Motivation Strategy- Model enthusiasm for the subject taught.
Motivation Strategy- Associate the students with other students who are enthusiastic about the subject.
Positively confront the possible erroneous beliefs, expectations, and assumptions that may underlie the negative student attitude.
Motivation Strategy- Make the first experience with the subject matter as positive as possible.

(C)   Motivation Sub factor- Attitude toward the self
Diagnostic Question- What are the student's sense of worth and capabilities in the learning situation?
Motivation Strategy- Guarantee successful learning.
Motivation Strategy- Encourage the student.
Motivation Strategy- Emphasize the student's personal causation in learning.
Motivation Strategy- Use group process methods to enhance a positive self-concept in the student.

(D)   Motivation Sub factor- Expectancy for success

Diagnostic Question- How well does the student honestly and objectively expect to do in the learning situation?

Motivation Strategy- Interview the students.

Motivation Strategy- Use goal setting methods.

Motivation Strategy- Use contracting methods.

Motivation Strategy- Use programmed materials.

#2 Motivation Factor- Needs

(A)   Motivation Sub factor- Physiological needs

Diagnostic Question- What is the condition of the student's physical well being?

Motivation Strategy- When relevant, select content, examples, and projects that relate to the physiological needs of the students.

Motivation Strategy- Be alert to restlessness in students and relieve the causes.

(B)   Motivation Sub factor- Safety Needs

Diagnostic Question- How is the learning situation free of fear and threat?

Motivation Strategy- When relevant, select content, examples, and projects that relate to the safety needs of the students.

Motivation Strategy- Reduce or remove components of the learning environments that lead to failure or fear.

Motivation Strategy- Create a learning environment that is organized and orderly.

Motivation Strategy- Don't expect initiative and self-discipline from insecure students.

Motivation Strategy- Introduce the unfamiliar through the familiar.

(C)   Motivation Sub factor- Belongingness and love needs

Diagnostic Question- How does the student have a sense of belonging and acceptance in the learning situation?

Motivation Strategy- When relevant, select content, examples, and projects that relate to the belongingness and love needs of the students.

Motivation Strategy- Increase or create components in the learning environment that tell the student that he/she is wanted and that significant others care about him/her.

Motivation Strategy- Devise a system of designated duties and responsibilities so that all students become functioning members of the group.

(D)   Motivation Sub factor- Esteem needs

Diagnostic Question- How does the learning activity promote the student's self-respect?

Motivation Strategy- Offer the opportunity for the responsible attainment of learning goals that affirm the student's identity or role.

Motivation Strategy- Offer students subject matter, assignments, and learning modes that appeal to and complement their strengths and assets.

Motivation Strategy- Offer subject matter in such a way that it enhances the student's independence as a learner and as a person.

Motivation Strategy- Plan activities to allow students to publicly display and share their talents and work.

(E)   Motivation Sub factor- Self-actualization needs

Diagnostic Question- How does the student exercise full potential in the learning situation?

Motivation Strategy- Provide students with the opportunity to select topics, projects and assignments that appeal to their curiosity, sense of wonder, and need to explore.

Motivation Strategy- Encourage divergent thinking and creativity in the learning process.

Motivation Strategy- Provide the opportunity for self-discovery through freedom of choice in the learning situation with emphasis on risk taking, problem solving, experimentation, and self-evaluation.

#3   Motivation Factor-Stimulation

(A)   Motivation Sub factor-Introduction and connection of learning activities

Diagnostic Question- How are the various subtopics and subunits of learning effectively introduced and connected?

Motivation Strategy- Use focusing methods and or materials to draw student attention to the new learning activity or topic.

Motivation Strategy- For recitation and discussion, use Kounin's positive group alerting cues.

(B)   Motivation Sub factor- Variety

Diagnostic Question- What is there that is continually different about the learner's environment and activities?

Motivation Strategy- Whenever possible, let the learner control the pace, choices, and changes in the learning activity.

Motivation Strategy- Use movement, voice, body language, pauses, and props to vitalize and accentuate classroom presentations.

Motivation Strategy- Shift interaction between yourself and the students and between the students themselves during classroom presentations.

Motivation Strategy- Change the style as well as the content of the learning activities.

Motivation Strategy- Use closure techniques to help students organize their attention to the end of a topic or subunit of learning.

(C)   Motivation Sub factor- Interest and Involvement

Diagnostic Question- How does the learner figuratively step into and become a part of the learning activity?

Motivation Strategy- Guarantee success and pleasure at the beginning of any new learning experience.

Motivation Strategy- Find out the student's interests and relate learning to them.

Motivation Strategy- Use hum our, examples, analogies, stories, and questions to facilitate the active participation of students in your lectures and demonstrations.

Motivation Strategy- Whenever possible, make student reaction and involvement essential parts of the learning process – i.e. problem solving games, role playing, simulation, etc.

(D)   Motivation Sub factor- Questions

Diagnostic Question- In the learner's perception, how stimulating and provocative are the questions being discussed?

    1.   Motivation Strategy- Limit the use of knowledge questions and use higher level questions as suggested by Bloom.

    2.   Motivation Strategy- Employ M. Sadker and D. Sadker's suggestions for improving the quality of questioning skills that enhance student responsiveness.

    (E)   Motivation Sub factor- Disequilibrium

Diagnostic Question- How is the learner confronted with information or processes that are different, novel contrasting, or discrepant from what he/she already knows or has experienced?

Motivation Strategy- Introduce contrasting or disturbing data and information.

Motivation Strategy- Permit a humane degree of student mistakes and frustrations.

Motivation Strategy- Play the devil's advocate.

Motivation Strategy- Be unpredictable to the degree that students enjoy your spontaneity with a sense of security.

4 Motivation Factor- Affect

    (A)   Motivation Sub factor- Feelings

Diagnostic Question- How does the learner feel about how and what she/he is learning?

Motivation Strategy- When emotions are apparent recognize and accept the student's feelings.

Motivation Strategy- When a student seems unmotivated, simply describe her/his behaviour and ask an open-ended question to facilitate understanding and resolution of the issue.

Motivation Strategy- Whenever a student's feelings seem relevant but are unstated or ambiguous, check your impression of them to open communication and facilitate motivation.

Motivation Strategy- Directly describe your feelings to resolve problems with a student and to avoid continual anger and resentment.

    (B)   Motivation Sub factor- Confluency

Diagnostic Question- How does what the student is learning relate to what she/he feels now and believes is important or of real concern to her or his daily life?

Motivation Strategy- Have the student live out the cognitive concepts presented by experiencing them in the classroom setting.

Motivation Strategy- Have the student imagine and deal with learning experiences as they relate to her/his real life.

Motivation Strategy- Use student concerns to organize content and to develop themes and teaching procedures.

    (C)   Motivation Sub factor- Valuing

Diagnostic Question- How does what the student is learning relate to what she/he values?

Motivation Strategy- Use values clarification methods and activities to facilitate learning.

    (D)   Motivation Sub factor- Climate

Diagnostic Question- How does the student experience the learning environment in terms of group cohesion, personal acceptance, open communication, and cooperation?

Motivation Strategy- Use Gibb's supportive communication behaviours to facilitate a positive climate.

Motivation Strategy- Use a cooperative goal structure to maximize student involvement and sharing.
Motivation Strategy- Make group decisions by consensus.
Motivation Strategy- Use "climate surveys to diagnose your classroom atmosphere.
Motivation Strategy- Use self-diagnostic questioning procedures to reflect upon how your behaviour influences the classroom atmosphere.

#5 Motivation Factor- Competence
(A) Motivation Sub factor- Awareness of progress and mastery
Diagnostic Question- How does the student know that he/she is effectively learning and can use this learning to cope with important or new environments?
Motivation Strategy- Provide consistent feedback regarding mastery of learning.
Motivation Strategy- Use constructive criticism
Motivation Strategy- Facilitate successful completion of the agreed-upon learning task.
Motivation Strategy- Help the learner to realize how to operationalize in daily living what has been learned.
(B) Motivation Sub factor- Responsibility
Diagnostic Question- How is the student aware at the completion of learning that she/he has personally caused and is accountable for that learning?
Motivation Strategy- Acknowledge and affirm the student's responsibility in completing the learning task.
Motivation Strategy- Use a competence checklist for student self-rating.
Motivation Strategy- Acknowledge the risk taking and challenge involved in the learning accomplishment.

#6 Motivation Factor- Reinforcement
(A) Motivation Sub factor- Artificial reinforcers
Diagnostic Question- How is student motivation facilitated by being concretely rewarded at the end of the learning behaviour?
Motivation Strategy- When the other 5 general motivation factors cannot facilitate student motivation, artificial reinforcers may be initially employed.
Motivation Strategy- Provide artificial reinforcers when they contribute to the natural flow of successful learning and provide closure with a positive ending.
(B) Motivation Sub factor- Natural consequences
Diagnostic Question- How does the student realize learning intrinsically produces changes that are positive and desirable?
Motivation Strategy- When learning has natural consequences, allow them to be congruently evident.
(C) Motivation Sub factor-Grades
Diagnostic Question- How does the grading procedure facilitate and support student motivation?
Motivation Strategy- Do not use traditional grades as the only form of feedback on student work.
Motivation Strategy- Discuss with and involve your students in the grading procedure.

Motivation Strategy- Use student self-evaluation as part of your grading decision.
Motivation Strategy- Have your grading procedures supportive of your teaching style.

Literature Circles
        The specific technique known as the literature circle is a cooperative learning process which engages students in analyzing and thinking critically about a piece of written or graphically represented material. It is a way to involve and interest every student in reading a piece of material and discussing it while simultaneously helping students hone the skills for reading comprehension and analysis. The length and complexity of the material (whether novel, short story, news article, essay, cartoon, graph etc.) will dictate the time and/or number of meetings required.
Here's the general idea:
• Material is read in sections or by chapters and then analyzed by the group, usually consisting of six members each, before continuing to the next section. (This means that if you have 24
students in your class, you will have four literature circles.)
• Each student in the literature circle is given a different role in this analysis and a packet describing each of the roles.
• Usually there are six roles*:
1. Summarizer
2. Discussion Director
3. Passage Picker
4. Word Wizard
5. Connector
6. Illustrator

• After all the students of the six student circle have fulfilled their roles (completed their assignments), each student makes a brief presentation.
• Initially, the teacher acts as a facilitator and models the roles for students.
• Students eventually become independent and the teacher is free to work the room.
• The material can be short or long: a novel, a short story, news article, essay, cartoon, graph
etc.) The length of the material will dictate the time and/or number of meetings required.
• Circles must submit a timeline with deadlines for completing the reading, the preparation,
and the discussion.
• Reading will often be done as homework, but it can be done in class – it is the teacher's judgment as to what is necessary and appropriate.
• With younger students and with reluctant readers, a literature circle can be adjusted by limiting the quantity of the reading so it can be accomplished during class time.
• Of course, adjustments should be made to accommodate changing circumstances. For example, the roles can be collapsed or eliminated.
• The literature circle roles should be rotated to equalize the workload and to give each student an opportunity to broaden his/her skill-sets and to experience the advantages of

various "learning-to-learn" strategies.
• Literature circles can be used to engage students in any subject area.
• Like all cooperative learning and constructivist learning strategies, effective application of literature circles requires the teacher to think the process through and to plan for all eventualities and have contingency plans in the wings.

(Adapted from SchlickNoe, K. L. and Johnson, N. J. (1999), *Getting started with literature circles*, Norwood, MA: Christopher-Gordon Publishers; and from the Literature Circles Resource
Center at http://fac-staff.seattleu.edu/kschlnoe/LitCircles/)

Concept Mapping
The concept mapping process my co-authors and I use follows the one described in *Learning How to Learn* by Joseph D. Novak and D. B. Gowin. It is structured hierarchically, with the top concept dictating the organization. Concept mapping is a learning technique. Concept mapping is a process by which thought becomes visible. Concept mapping is a technique that is used to externalize a proposition. Propositions are the connections that exist between and among concepts.
• Concept maps make clear to both students and teachers, the small number of key ideas they must focus on for a specific learning task.
• Teachers who concept map the key ideas of a course of study can clearly see where they are going and when to introduce or reinforce connected topics.
• A student's concept map is a schematic summary of what a student **knows** about a topic, what the student **needs** to learn about a topic, and what a student **has learned** about a topic (KNL).
• Concept maps can serve as an instructional guide for teachers, a learning device for students and an assessment tool for both teachers and students.
• Since learning is individual and idiosyncratic but knowledge is public and shared, comparing
concept maps broadens students' understanding and facilitates discussion.

GRAPHIC ORGANIZER (CONCEPT MAP) FOR THE 17 INTENTIONS
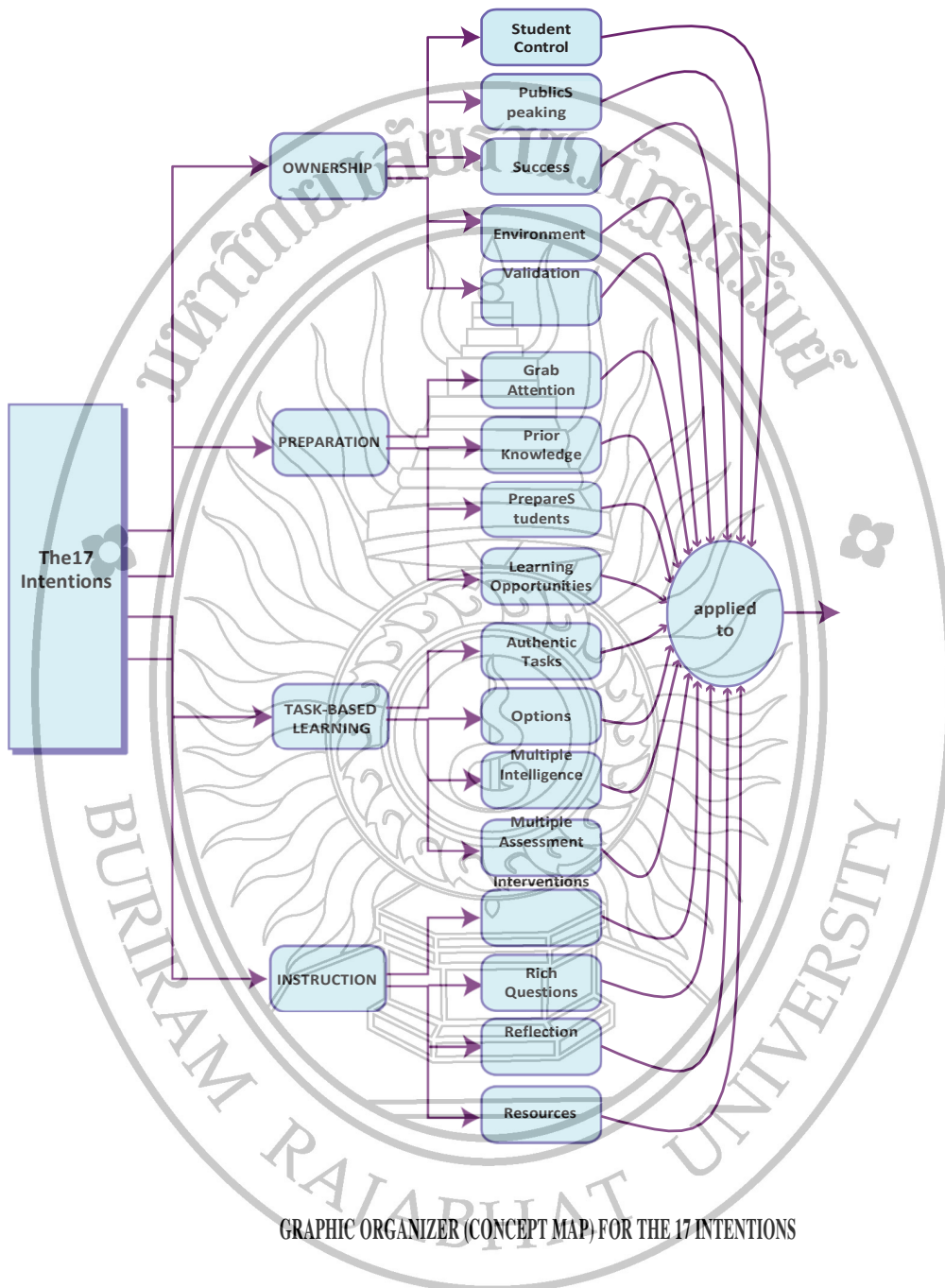
Conclusion

During my school visitations in Thailand during the past ten years, I identified three issues in the Thai educational system that need to be addressed before a Constructivist philosophy and practices can be properly implemented into the Thai educational system. The first is how teachers can overcome the issue of students not answering questions because they are afraid of making a mistake (losing face); the second is how teachers can encourage students to question their statements and teaching methods so that the students do not feel disrespectful to the teachers; and the third is how teachers can solve the problem of students copying other students' work during tests. I truly believe that if teachers follow the framework provided by the 17 Intentions of Effective Teachers, these issues will no longer prevail and greater engagement and improved learning will be the result.

And here is the good news: 1. you have many great educators who incorporate Constructivist strategies throughout their lessons either intuitively or by design, and 2. you need to educate North American schools on how to improve parent/guardian participation in their schools because it is of paramount importance and from what I have seen, your teachers and schools excel at it.