

Cooperative Team Learning to Motivate AET Instructor Professional Development

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Introduction

- The purpose of this descriptive study was to create information about the employment of cooperative learning as both a content and process component of AET faculty professional development training in Nigeria.
- The findings illustrate that the AET Faculty participants perceived:
 - The Cooperative Learning Team (CLT) process helped them improve their pedagogical skills, increase their motivation to improve their teaching, and develop their ability to work effectively with their colleagues.
 - The social connections and accountability created through the CLT process were important in driving their motivations.
- Future research should consider the use of an established instrument for measuring motivation so that levels of participant motivations may be assessed before and after the intervention.

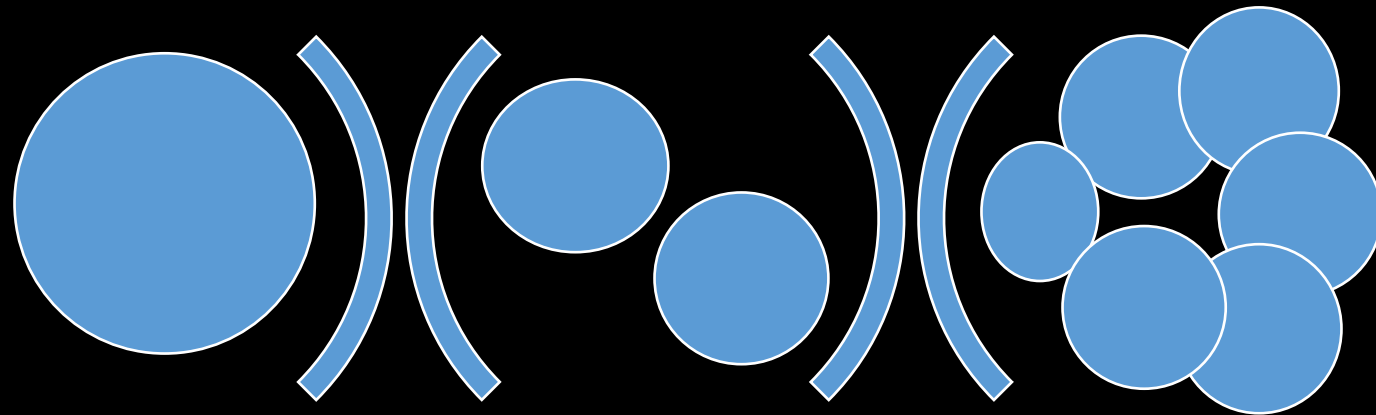
Introduction

High quality instruction within functional Agricultural Education and Training (AET) systems is pivotal to the growth and development of any nation.



Introduction

The current study was undertaken as part of a faculty development institute for faculty within the Division of Agricultural Colleges at Ahmadu Bello University in Nigeria.



Introduction

Meaningful Learning occurs when learners process experiences and connect those experiences to their own existing frames of reference.

Learning is nested within the interactions with the environment and the mind of the learner seeks meaning through the interpretation of those interactions

When knowledge and experiences are contextualized the connection between what is learned and how it fits into reality is explicit

Theoretical Framework –Social Interdependence

- Social interdependence arises when individuals share common goals and the outcomes each individual experiences are dependent on the actions of others to which they are connected (Deutsch, 1962; D.W. Johnson & Johnson, 1989).
- Social interdependence theory is based on the conception that how participants' goals are structured determines the ways they interact and the resulting interaction pattern determines the outcomes of the situation (Deutsch 1949; Johnson & Johnson, 2009).
- Substitutability; Cathexis; Inducibility

Conceptual Framework – Cooperative Learning

Johnson and Johnson have posited that five variables mediate the effectiveness of cooperation

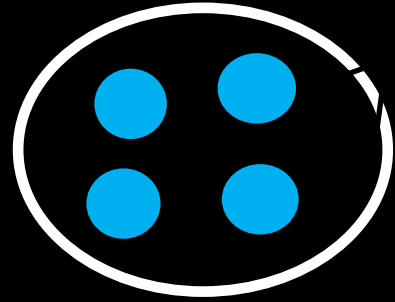
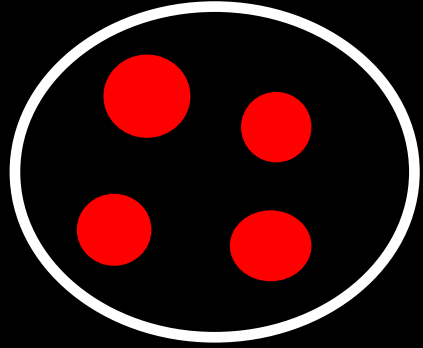
- Positive Interdependence
- Individual Accountability
- Promotive Interaction
- Small Group Skills
- Group Processing



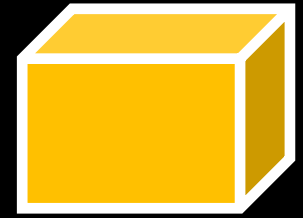
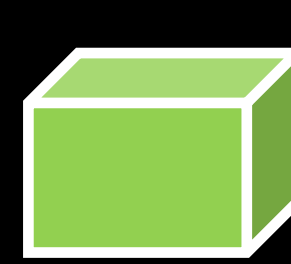
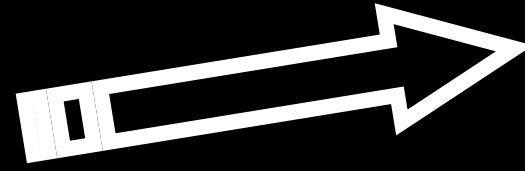
Methods

- The purpose of this descriptive study was to create information about the employment of cooperative learning as both a content and process component of AET faculty Professional development in Nigeria (N = 54)
- The participants were faculty working in the Division of Agricultural Colleges at Ahmadu Bello University who participated in a three week USAID Sponsored pedagogical professional development training
- Participants were sorted into CLTs of 4-5 based on fields of study

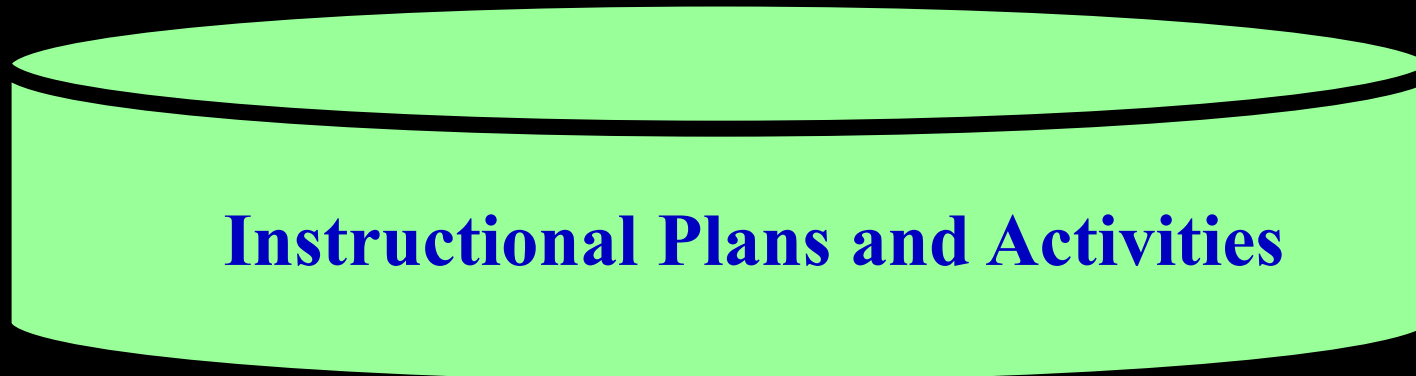
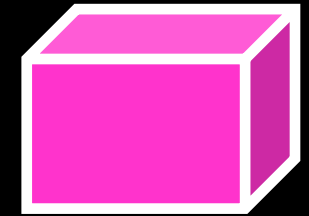
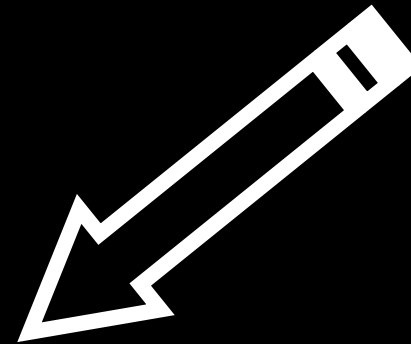
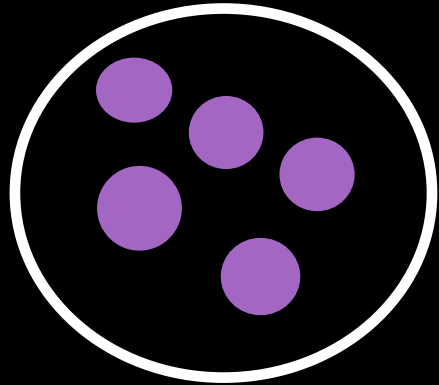
Methods



Cooperative Learning Teams



Enabling Tasks



Methods

- Researcher constructed survey instrument (36 items; 4 subscales) to create information about participant perceptions of CLT experiences
 - 1) Overall CLT experiences ($\alpha = .78$)
 - 2) Impact on pedagogical skills ($\alpha = .67$)
 - 3) Impact on perceptions of motivation to improve teaching ($\alpha = .73$)
 - 4) Impact on ability to work effectively with colleagues ($\alpha = .70$)

Findings

- Demographics about the participants...
 - 39% were female
 - Taught a mean of 3.2 ($\sigma = .81$)
 - 77% were lecturers / 22 % were professors
 - 35% had a doctoral degree
 - Animal Science; Vet Medicine; Agronomy / Crop Protection; Biochemistry; Molecular Biology; Soils

Construct	Sub-construct	Aggregate Item	Rating ^x
1	1	CLT Improved institute engagement	4.5 ^z / 0.41 ^y
1	2	CLT increased commitment to achieve goals	4.4 / 0.26
1	3	CLT facilitated learning and output creation	4.8 / 0.44
2	1	CLT improved my instruction	4.7 / 0.21
2	2	CLT expanded my understanding of learning	4.4 / 0.60
2	3	CLT facilitated greater skill development	4.7 / 0.36
4	1	CLT drove motivation to improve	4.6 / 0.22
3	2	CLT connections fostered motivation	4.8 / 0.18
3	3	CLT accountability validated efforts	4.2 / 0.58
4	1	CLT grew motivation to work together	4.6 / 0.27
4	2	CLT improved collegial problem solving	4.5 / 0.34
4	3	CLT raised individual and group output quality	4.8 / 0.45

Note: ^z Mean; ^y Standard Deviation; ^x Scale 5 = strongly agree to 1 = Strongly Disagree

Findings / Conclusions

- Strongly agreed that experiences with cooperative learning facilitated learning and output creation
- Perceived greater individual and group output productivity and quality
 - supported by previous literature that indicates that working in CLTs fosters improved achievement and critical thinking over working alone or in a competitive scenario (Johnson, Johnson, & Smith, 2014).
- Perceived that cooperative learning experiences positively impacted institute engagement and commitment to institute goals
 - supported by previous research which indicates that CLT scenarios tends to strengthen engagement and persistence in the face of challenges (Slavin, 2014).

Findings / Conclusions

- Perceived improvement in instruction and collegial engagement
 - supported by research that indicates CLT experiences are more likely to support participants' distillation of insights into higher level cognitive challenges, such as teaching (Johnson, Johnson, & Smith, 2014).
- Believed that CLT connections fostered motivation to improve their teaching
 - Previous research also indicates that cooperation facilitates motivation through working or acting together for common purpose or benefit (Harris, 2010).

Findings / Conclusions

- Perceived CLT contribution accountability structures and reporting validated individual efforts
 - supported by previous research that indicates individual and team motivations are stronger when individual contributions are visible and acknowledged (Johnson, Johnson, Roseth, & Shin, 2014).
- instructors perceived that the CLT processes improved their collegial problem solving and grew their motivation to work with their teammates
 - supported by previous research that found properly operationalized CLT scenarios help teams build acceptance among individuals (Kuchenbradt, Eyssel, & Seidel, 2013)
 - supported by social interdependence theory which asserts that interactions with CLTs create trust through the negotiation of meaning between group members (Johnson, Johnson, & Smith, 2014)

Recommendations

- Qualitatively assess how cooperative learning effects learning and the commitment level of groups and individuals
- Implement quasi experimental research to determine whether cooperative learning experiences improve AET instructor output productivity
- Compare long term outcomes for groups that utilize contextualized cooperative learning and groups that utilize other methods for enacting professional development

THANK YOU

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