



Birds of a Feather Evaluation Overview and Workshop

2018 RED PI Meeting

7.10.2018

**IOWA STATE
UNIVERSITY**

Iowa State University

Department of Electrical and Computer Engineering

Rowan 
University
Rowan University

Curriculum Research & Evaluation, Inc.



UNC CHARLOTTE
College of Computing and Informatics

University of North Carolina at Charlotte
College of Computing and Informatics



Boise State University
Department of Computer Science



Birds of a Feather

Evaluation Overview and Workshop

Workshop Abstract:

This session is designed as a 'Birds of a Feather' session about the different ways RED Projects are gathering assessment information. We will lead a discussion based workshop with these guiding questions: a) what assessment information is captured, how and at what frequency?; b) what challenges have you faced in conducting assessment/evaluation?; and c) what methods have been successful in the assessment process for the project?; and d) what resources do you need/can you share? The workshop leaders will share overviews of their evaluative processes, and facilitate discussion among the participants along the four guiding questions.

The goals of this session are to create a forum for evaluation discussion that results in expanded understanding of the challenges and opportunities for assessing organizational change among RED projects. The objective of this session is to produce an assessment resource guide for RED project teams; the resource will take shape based upon the discussion, and will consist of tips, best practices, and materials for adoption and adaptation.



Birds of a Feather Evaluation Overview and Workshop

Workshop Agenda

- **Introduce our program evaluations**
- **Evaluation discussion questions**
- **Participant's assessment to questions**
- **Consolidation and Lessons learned**



Evaluation Logic Model

Hatchery Project - MISSION

Develop an industry relevant and agile curriculum that models best practices of software development companies, which promote ethical questioning, facilitate acceptance of greater diversity, with a focus on professional skills for collaboration, communication, and teamwork.

Inputs	Activities	Outcomes	
Faculty and instructors Undergraduate students Industry partners Student records	Baseline surveys with students, faculty, and instructors Interviews with industry partners Focus groups and informal conversations Change-assessment surveys Participate in project meetings	<u>Short Term</u> Support curriculum development efforts Identify available opportunities for project improvement Evaluate project direction and progress	<u>Long Term</u> Identify best practices and amount of change (i.e., impact) from Hatchery project Share findings with evaluation and research community to support future projects

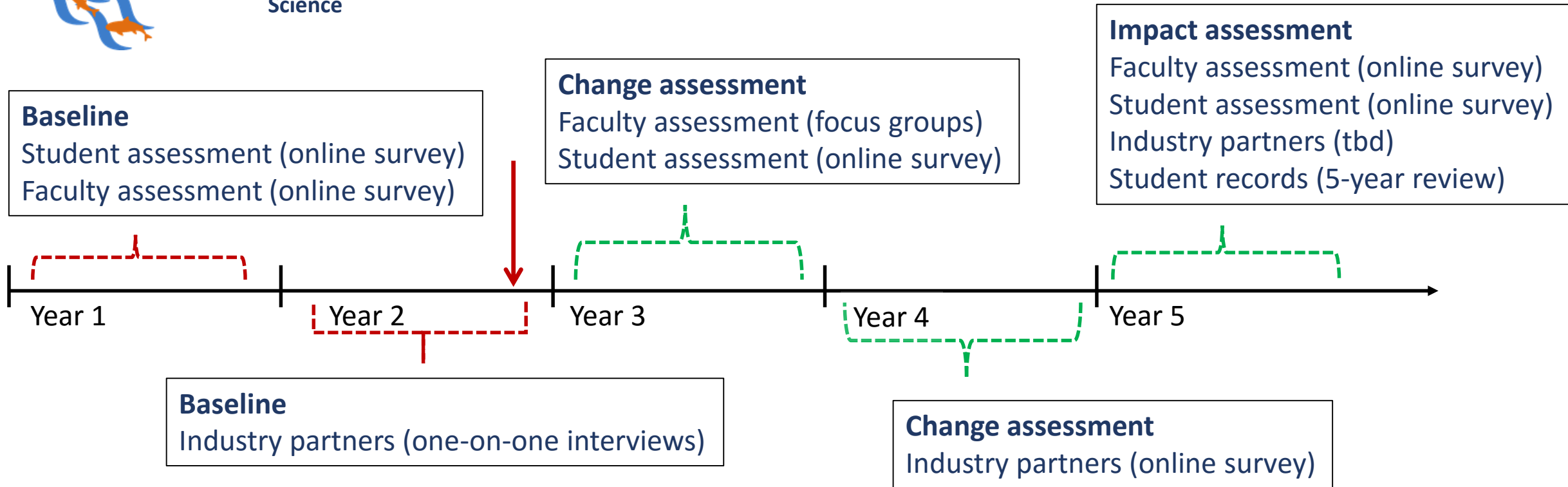
Overall Evaluation Questions:

Is the project on target to meet its identified goals and objectives?

What is the level of impact from the Hatchery project on student's education and on preparing students for employment?



Evaluation Timeline



Targeted Information

Baseline: beliefs and perceptions of CS curriculum

Change assessment: Levels of observed change (e.g., student records, engagement), levels of reported change (e.g., beliefs, perceptions)

Impact assessment: Impact on beliefs/perceptions, impact on behavior, and measured level of impact (overall observed change)

The Connected Learner Evaluation Logic Model

	STUDENTS		FACULTY		ORGANIZATIONAL
Context:	Low Student Diversity, Retention and Graduation in Computing Programs		Faculty Lack Resources for Teaching Innovations		Infrastructures that support Pedagogical Research and Reform Needed in Computing
Input	Assessment Center for Education Innovation	Peer Tutors, TAs, GAs stipends for mentoring	Seminars, Workshops & Summer Retreats	Tiered Faculty Mentoring and Affinity Groups	Faculty stipends, teaching awards; Business & community partnerships for RealWorld Problems
Activity	Active Learning Strategies deployed in entry level courses; Grand/Real World Challenges in upper level courses		Course Design Patterns Distributed via Seminars, Workshops & Retreats; Online Toolkit Dissemination		Six-Sigma System of Continuous Teaching Process Improvement; Reduction in teaching load to support pedagogical research
Outcomes:	Student learning outcomes: GPA, course SLOs, Periodic Competency Assessments; Student Engagement: NSSE Surveys, focus groups; Retention & Graduation		Design Patterns: No. of design patterns created & deployed; course evaluations & observations; faculty ratings; Faculty: Climate surveys, focus groups, Affinity Group participation & products		Policies changed and added, CCI Partners Survey, CCI Partners participation in courses, Dissemination (publications & products), New Partnerships
	Improved student academic performance, increased experiential learning (internships, research, etc), retention and graduation rates		Increased pedagogical research and dissemination of pedagogical patterns for connecting learners		Computing pedagogy practice & scholarship are tightly connected and embedded in organizational strategy
Long Term Impact:	Students will think differently about their college experience.		Faculty will think differently about their role as teachers.		CCI organization climate shift.
	Move toward computing professional identity within an engaged community, more than merely a sum of courses accrued.		Move toward active learning experiences rather than lecture.		Engaged faculty, engaged students, engaged community thereby improved educational quality.
GOALS	Increase Student Retention and Graduation by 10% by 2020		Implementation of pedagogical patterns for connecting learners in 60 courses across the undergraduate curriculum by 2020		Establishment of RPT practices that reward pedagogical research; Stronger partnerships

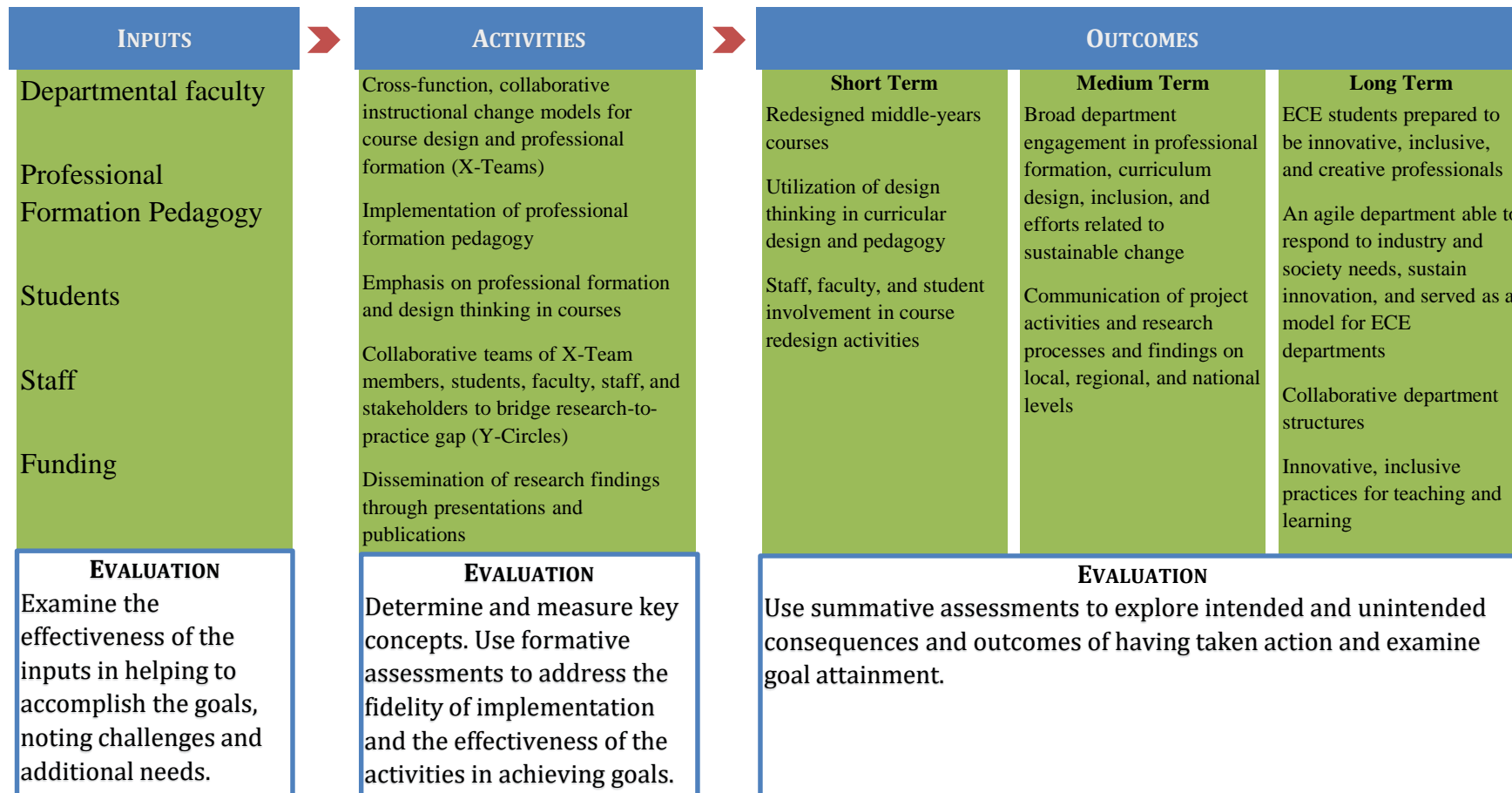
The Connected Learner Evaluation Timeline

		AY 1			AY 2			AY 3			AY 4			AY 5		
		Fall 2015	Spring 2016	Summer 2016	Fall 2016	Spring 2017	Summer 2017	Fall 2017	Spring 2018	Summer 2018	Fall 2018	Spring 2019	Summer 2019	Fall 2019	Spring 2020	Summer 2020
Students	CL End-of-Term Course Evaluations (self-report learning, attitudes about teaching methods)	X	X		X	X		X	X		X	X		X	X	
	CL Focus Groups	X				X					X				X	
	Cognitive Assessment in Targeted Courses (Design Protocol Analysis)					X						X				
	CL Cohort Comparisons						X			X			X			X
	CCI Indicators: Enrollment, Retention, Graduation, GPA, Performance in Core Courses		X			X			X			X			X	
	Survey Triangulation: NSSE, CRA Data Buddies, Taulbee			X			X			X			X			X
Faculty	Faculty Climate Survey				X							X				
	Interviews		X		X							X		X		
	Monitor Pedagogies & Design Patterns	X	X		X	X		X	X		X	X		X	X	
	Summer Teaching Institute Participation			X			X			X			X			X
Organization	CS Education Research Activity in CCI		X			X			X			X			X	
	Track Policy Change, Partnerships		X			X						X			X	
	Assess Faculty Job Ad Language											X				
	Summative Evaluation: disseminate findings, lessons learned to constituents			X			X			X			X			X

RED/RIDE Logic Model

MISSION

To reshape the core technical electrical and computer engineering (ECE) curricula in the middle years through pedagogical approaches that (a) promote design thinking, systems thinking, and professional skills such as leadership and inclusion, (b) contextualize course concepts; and (c) stimulate creative, socio-technical minded development of ECE technologies for future smart systems.

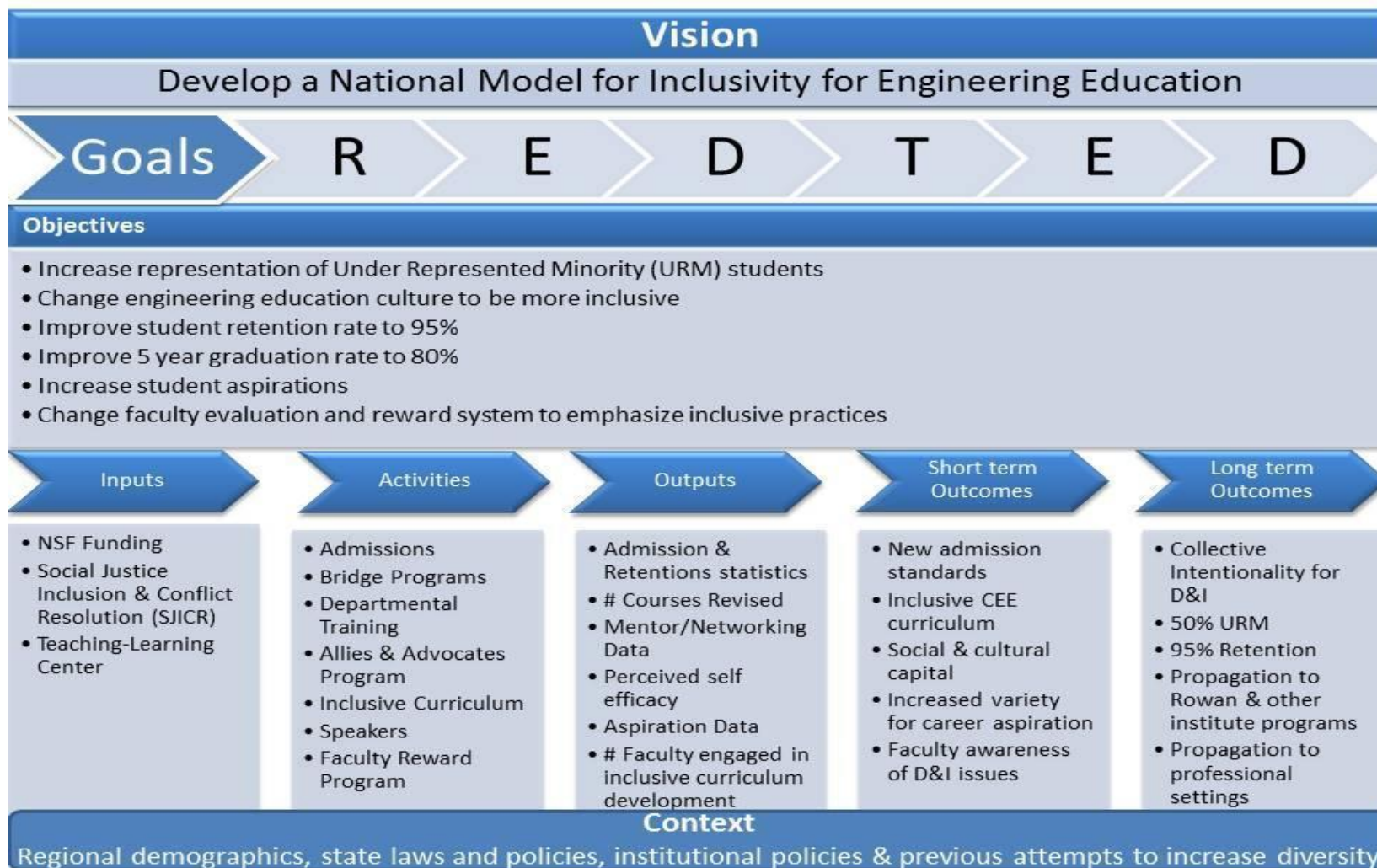


RED/RIDE Evaluation Timeline (Years 2 and 3)

EVALUATION ACTIVITIES	Year 2				Year 3			
	Jul- Sept	Oct- Dec	Jan- Mar	April- June	Jul- Sept	Oct- Dec	Jan- Mar	April- June
Participate in leadership team meetings								
Prepare and submit evaluation annual report								
Conduct and report Leadership Team Process Survey								
Develop structure for longitudinal student database/Compile and report longitudinal student data								
Develop and conduct advisor interviews								
Develop student and faculty baseline surveys								
Conduct faculty baseline survey								
Conduct student baseline survey								
Attend national RED meeting								
Initiate departmental document review								



Revolutionizing Engineering Diversity (RevED) in the Civil and Environmental Engineering (CEE) Department at Rowan University





The evaluation of RevED is designed to be formative and summative and to adapt to the project as implemented, to inform the research process, and to support the research findings and outcomes.

Evaluation Timeline					
Evaluation Activities	Year 1	Year 2	Year 3	Year 4	Year 5
Participation in all Project Meetings Review of recruitment/retention data Onsite Activity Observations and Formative Surveys Interviews with mentors and targeted students Informal interviews with key project personnel Review of Research Data and Survey Data					
Faculty Interviews		●		●	●
Focus Group with Students Targeted Interviews with high school and community college administrators Review of course syllabi					
Summative Impact Surveys – Students; Faculty and Project Leadership					
Review and Triangulation of all evaluation data and research findings					●



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Workshop Agenda

- Introduce our program evaluations
- **Evaluation discussion**
- Participant responses to questions
- Consolidation and Lessons learned



Evaluation Discussion Questions

1. What assessment information is captured, how and at what frequency?
2. What challenges have you faced in conducting the assessment/evaluation?
3. What methods have been successful in the assessment process for your project?
4. What additional resources do you need/can you share?

Within small groups, please share your believes/experiences with each of the four questions above.



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Participant's assessment to questions

1. What assessment information is captured, how and at what frequency?
2. What challenges have you faced in conducting the assessment/evaluation?
3. What methods have been successful in the assessment process for your project?
4. What additional resources do you need/can you share?

Using post-it notes, share your beliefs/opinions/experiences by placing brief comments on the posters on the wall.



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Thank you!!

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