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# Board 344: PALAR in Pieces: An Informal Framework to Encourage Multifaceted Engagement

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When expanding her impact within her community— and encouraging others to do the same— there is no shortage of inspiration and devotion within Dr. Jessica Rush Leeker.

Fueled by her desire to deepen her knowledge and understand how she can leave a lasting impact on the world and the people around her, Dr. Rush Leeker has cultivated a rich educational background. Equipped with her undergraduate degree in Supply Chain and Information Systems from Penn University and her Ph.D. in Engineering Education and MBA in Sustainability and Operations from Purdue University, she is proud to currently share her expertise as an Engineering Professor at CU Boulder.

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# PALAR IN PIECES: AN INFORMAL FRAMEWORK TO ENCOURAGE MULTIFACETED ENGAGEMENT

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## INTRODUCTION

Exploring the innovative application of the Participatory Action Learning and Action Research (PALAR) framework in engineering education, this research addresses complex dynamic social issues through multifaceted engagement.

### Palar Process

**CONTEXT**

Forming the team
Negotiating roles, responsibilities, way of working, ethics

In-depth context analysis
Strategies to maximize enablers and resources, and minimize constraints

Setting research goals

Relationship building
Who we are?
Why do we want to do this?
What do we each bring to the project?

**VISION**

Analysis of and reflection on learning

Setting research questions

**PRACTICE**

Action Plan
• what?
• how?
• who?
• when?

Determining research methods

Adapted from: (Zuber-Skerritt, 2002: 145). Zuber-Skerritt, O. (2002). A model for designing action learning and action research programs. The Learning Organization, 9(4), 143-149.

## WHAT IS PALAR?

PALAR combines participatory action, action learning, and action research into a cohesive framework initially developed by Ortrun Zuber-Skerritt in 2011 for community projects. It aims to facilitate comprehensive, dynamic engagement.

**Participatory**
• Collaboration
• Empowerment

**Learning**

**Action**
• Change
• Outcomes

**Research**
• Knowledge
• Lessons

## PROJECT DESCRIPTION

This project spans multiple institutions and disciplines, engaging undergraduate, graduate, and faculty participants in a collaborative research effort. Communication challenges are addressed through structured yet flexible interactions fostered by PALAR.

## CORE COMPONENTS OF PALAR

### 1 Participatory Research:

Facilitates deeper engagement and investment by involving participants directly in the research process, enhancing the overall quality and applicability of findings.
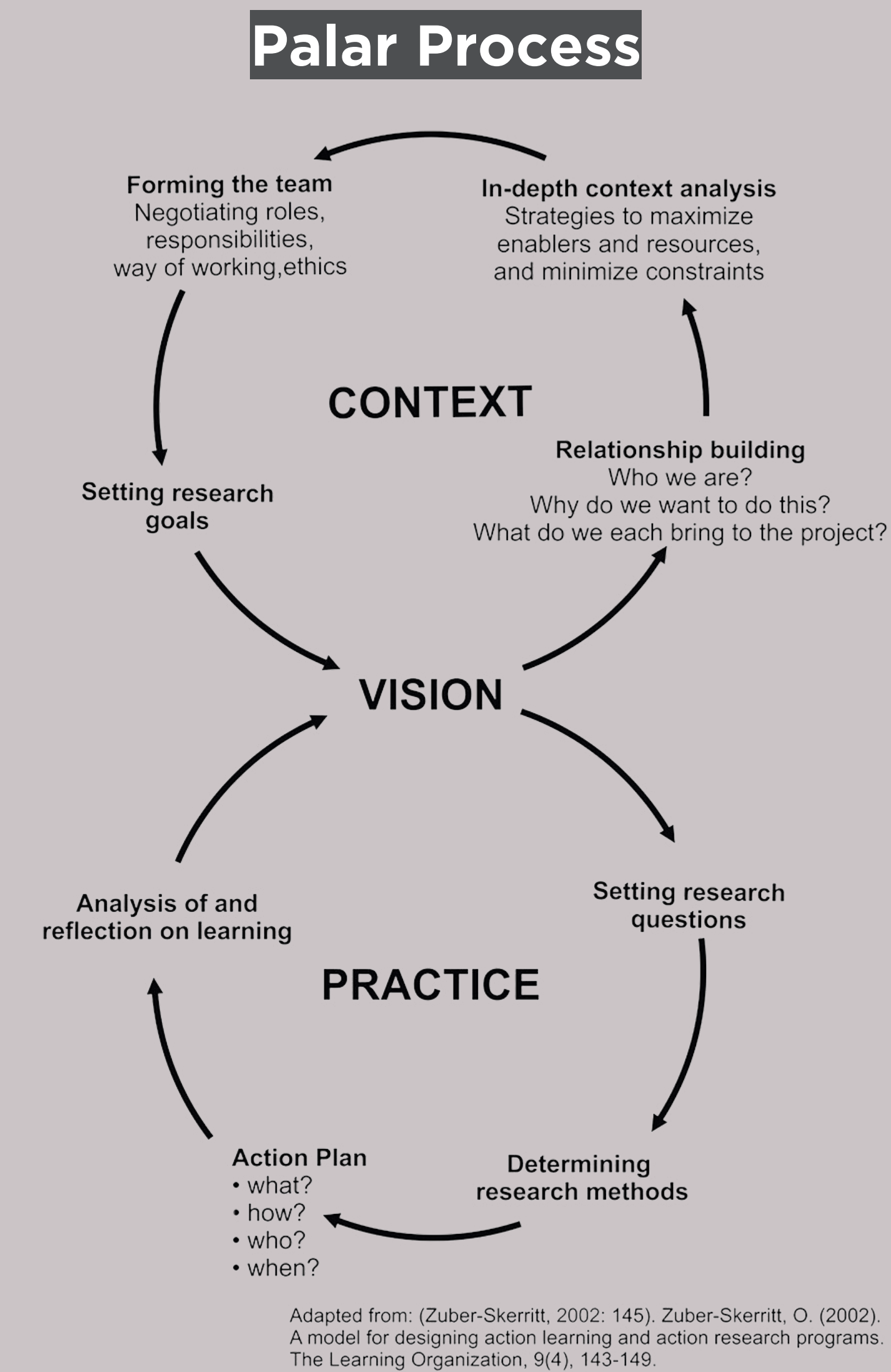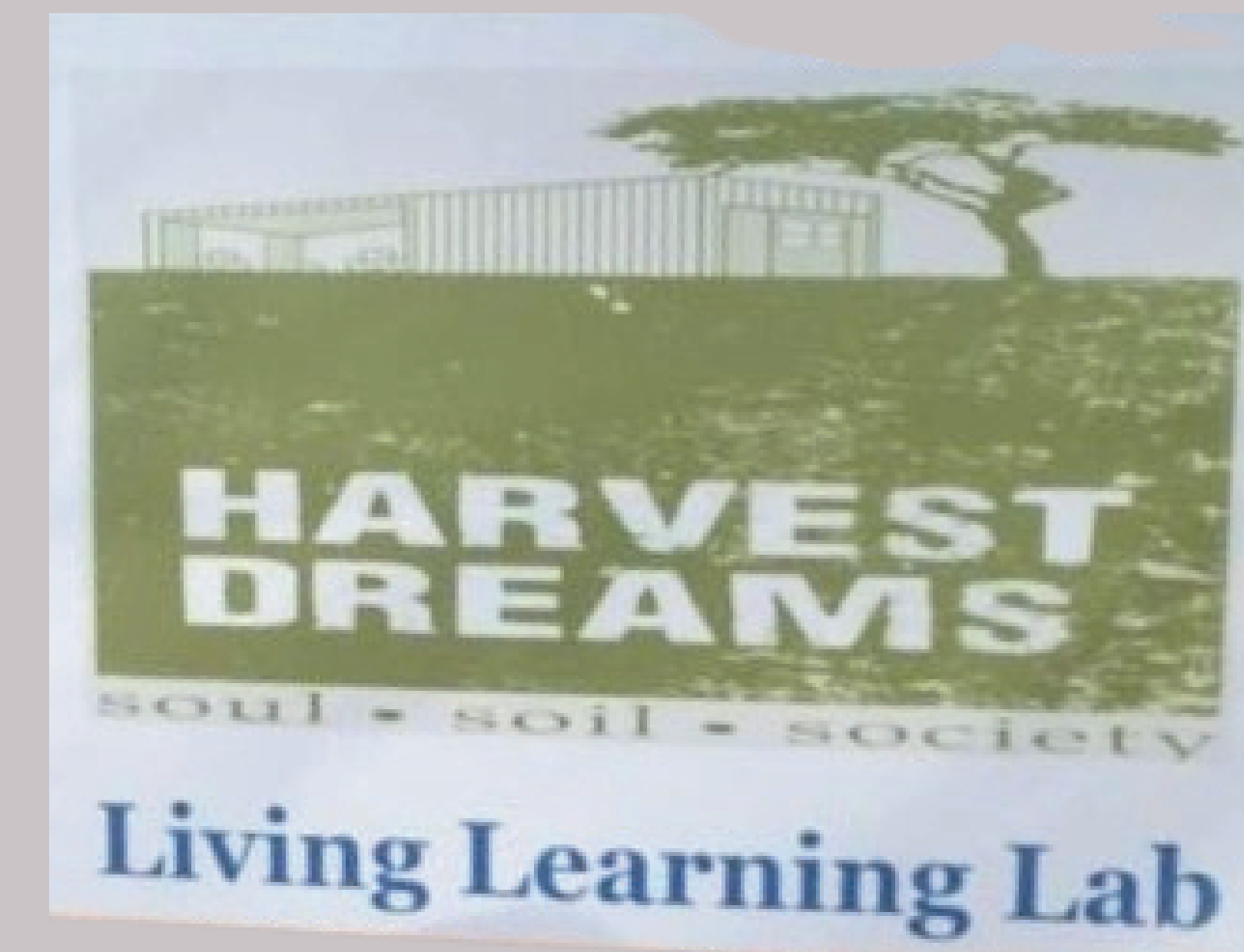
### 2 Action Learning (AL):

Centers on a 'learning by doing' approach where actions are taken first, followed by reflection. This cycle enhances problem-solving skills and practical application in real-world settings.

**PLAN**
• Take an Action
• Carry out plans

**ACT**
• What happend?
• How do you feel?
• What went well?
• What didn't go well?

**LEARN**
• What do we need to do now?
• How will we do that - What are the steps?

**REFLECT**
• Why did we have succes?
• Why didn't it go so well?

### 3 Action Research (AR):

Involves a systematic process of acting, observing, reflecting, and re-evaluating, which promotes continuous improvement and transformative social change.

**Action Research Cycle**

Planning → Action → Analysis → Conclusion

## METHODOLOGY

Each PALAR component was adapted to fit the engineering context, focusing on structured yet adaptable processes suitable for complex educational environments.

## OUTCOMES AND REFLECTION

The application of PALAR resulted in enhanced communication skills, increased personal agency among participants, and improved collaborative outcomes. These successes demonstrate PALAR's effectiveness in engineering education."

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## CONCLUSION

PALAR is a valuable framework for engineering education, offering necessary structure while accommodating the flexibility required to address real-world complexities and foster innovative solutions.

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