

A Focus on Design Thinking within a Personal & Professional Development Course

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BACKGROUND

- Standard 4 of the Center for the Advancement of Pharmacy Education 2013 outcomes includes an innovation and entrepreneurship objective.¹
- The recently approved ACPE 2025 standards include “Problem-Solving Process – use problem solving and critical thinking skills, along with an innovative mindset, to address challenges and to promote positive change.”²
- The Design Thinking Creative Problem-Solving (DT) Framework (Figure 1) is an option for promoting creative problem-solving skills in student pharmacists.³
- The University of South Carolina (USC) College of Pharmacy developed and implemented a DT series within a Personal and Professional Development (PPD) course using publicly available resources (scan QR code for list of resources).

OBJECTIVE

- Describe the components of a PPD course focused on the DT framework for student pharmacists in the third professional year.

METHODS

- In spring 2024, 96 student pharmacists enrolled in the PPD course across two campuses.
- Student pharmacists participated in a DT series over 3 two-hour class sessions (Figure 2).
- The learning activities were mapped to the phases within the DT Framework and graded using a rubric (Table 1).
- Grades were analyzed using descriptive statistics (Figure 3).

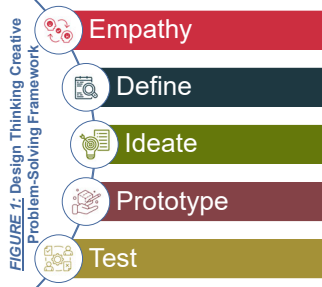
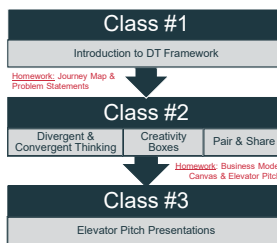


FIGURE 2: Design Thinking Series within a Personal & Professional Development Course



RESULTS

TABLE 1: Learning Activities Mapped to DT Framework Phase

Learning Activity	Description	DT Framework Phase	Rubric Description (Full Credit)
Journey Map	Draw a “Map a Day in the Life” of a community pharmacy professional.	Empathy	(1) relies on like interviews, observations, and empathy mapping to gain empathy for “end user” and their needs/pain points; (2) own assumptions about the problem/needs do not hinder ability to empathize; (3) accurately expresses empathy using descriptions of human emotion, physical necessity, and genuine needs to others
Problem Statements	Write “How Might We...” statements based on lowest point on Journey Map.	Define	(1) analyzes and evaluates learnings from the Empathy Stage and turns them into authentic insights; (2) own assumptions about the problem/needs do not hinder ability to frame the “end user’s” problem; (3) uses insights from Empathy Stage to frame “end user’s” problem using the “How might we...” outline
Divergent Thinking	Brainstorm solutions to the selected “How Might We...” statement within constraints provided.	Ideate	Utilizes divergent thinking skills by brainstorming around the “How might we...” statements that results in a large, diverse range of possible solutions within constraints
Convergent Thinking	As a team, select one problem & solution, reframe/remix and draw storyboard.	Ideate	Carefully selects 2 or 3 ideas to move forward to the Prototype Stage based on feasibility (can be done) and desirability (“end user” wants it since it addresses their problem)
Creativity Boxes	As a team, create a prototype of your solution using the provided Creativity Boxes.”	Prototype	Able to turn possible solutions into useful prototypes of increasing quality (sketching, creating, building) based on “user” feedback
Pair & Share	Pair up with another team, share your prototype and get feedback on your solution.	Test	(1) analyzes “user” feedback to quickly determine success/failure of solution; (2) uses information learned to further define problem, improve solution and adjust prototype; (3) pivots to a better solution, when necessary, based on “user” feedback; (4) own assumptions about the problem/solution do not hinder ability to learn from Test Stage and improve solution

Majority of points deducted from assignments were due to deficiencies in the highlighted areas suggesting solution-oriented and perfection biases.



KEY POINTS

- A solution-oriented bias interfered with student pharmacists’ ability to explore problems (empathy).
- A perfection-bias hindered their ability to identify a diverse list of potential solutions (ideate).

DISCUSSION

Limitations

- Grading rubrics have not been validated.
- A single faculty member graded all assignments and identified deficiency themes (i.e., solution-oriented and perfection biases).
- Content covered and learning activities used were adapted from resources provided by leading DT experts; however, faculty members involved in the DT series have not completed any DT training or certification.

Conclusions

- Mapping learning activities and grading rubrics to the DT Framework allowed the instructors to assess student pharmacist use of the DT Framework.
- A solution-oriented bias interfered with student pharmacists’ ability to explore problems (empathy).
- A perfection-bias hindered their ability to identify a diverse list of potential solutions (ideate).
- Additional research is needed to evaluate learning activities best suited to overcome student pharmacists’ solution-oriented and perfection biases.
- Additional research is needed to evaluate the impact of the DT series on innovation and creative problem-solving skills.

REFERENCES

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Disclosures: Authors of this presentation have no financial or personal relationships with commercial entities relevant to this presentation to disclose.

Objectives & Resources
Scan QR Code to access DT Series Objectives and Resources Utilized



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