Utah Science Education Tool (USET) Development Process

The Utah Science Education Tools (USETs) focus on a specific aspect of high-quality, phenomena-based, three-dimensional teaching and learning in Utah. They provide background information, give examples of what teachers and students do in the classroom, share a rubric for self-assessment and reflection, and have resources for further learning. The process of writing and publishing a USET on the USBE science webpage and SEEd eMedia hub is described below:

1. Initial Drafting
   - The writer completes a draft of the USET using the template.
   - The writer pays attention to the clarity, completeness, accuracy of the information, and length of the document (2 pages).
   - The writer completes the 4 sections USET sections:
     - Background: This section provides a concise overview of the USET topic, supported by relevant research and examples where necessary.
     - Classroom Application: This section outlines observable student actions that demonstrate understanding and describes specific teacher behaviors that support effective implementation.
     - Implementation Rubric: This component offers clear and measurable criteria for evaluating the effective implementation of the USET, typically across a range of performance levels (e.g., basic, emerging, effective, exceptional).
     - Resources: This section provides a curated list of resources that offer a more in-depth exploration of the USET topic and support further teacher learning.

2. Peer Review
   - The writer shares the draft with a peer or colleague for review.
   - The reviewer uses the following questions to guide their feedback:
     - Is the topic clearly stated and aligned with the Utah SEEd Standards?
     - Is the background information accurate, concise, and relevant?
     - Are the classroom applications practical and engaging?
     - Do the student actions clearly demonstrate understanding of the topic?
     - Are the teacher planning steps specific and actionable?
     - Is the implementation rubric clear and easy to use? Does each step have a clear progression between each performance level?
     - Are the resources appropriate, helpful, and are the links current?

3. Self-Reflection
   - The writer carefully reviews the peer feedback and considers the following:
     - Are the suggestions valid and helpful?
     - How can I incorporate the feedback to improve the USET?
     - What areas need further clarification or development?

4. Revision
    - The writer revises the USET based on the peer feedback and self-reflection.
    - The writer double-checks the clarity, completeness, and accuracy of the revised document.
5. Expert Review by Combined SSECC Advisory Team
    - The writer submits the draft to USBE's Science Education Specialists to be reviewed by the Combined State Science Education Coordinating Committee (SSECC) Advisory Team.
    - The Combined SSECC Advisory Team provides feedback on the scientific accuracy, pedagogical effectiveness, and alignment with best practices.
6. Final Revision
    - The writer revises the USET based on the feedback from the Combined SSECC Advisory Team.
    - The writer proofreads the USET for any errors in grammar, spelling, or punctuation.
7. Published Draft Creation
    - The writer submits the final draft to USBE's Science Education Specialists to be incorporated into the published draft.
    - The Specialists provide the published draft to the writer for feedback.
8. Published Online and shared with Combined SSECC
    - The published draft is published to USBE's Website and the SEEd eMedia Hub.
    - The published USET is shared in Combined SSECC and distributed amongst the Science Education community.