

Creative Deviation

Assessing Originality in Learner-Centered Learning through Contemporary Art Evaluation Perspectives

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Abstract

This study examines “creative deviation” as a new assessment method to promote learners’ interests, engagement, and creativity within STEAM education. Mock lessons centered on food were conducted, during which deviations from standard classroom progression were carefully observed. These behaviors were evaluated using originality criteria from contemporary art. The study hypothesizes that creative deviations can initiate creativity that drives innovation in a diverse society. This research explores the application and potential of creative deviation as an effective tool for assessing and fostering student creativity.

Keywords and Phrases: Assessment, STEAM, Contemporary Art, Creativity, Baking, Cooking, Chemistry, Deviation

1. Introduction

Current school education systems emphasize efficiency and equality by measuring student outcomes against set achievement targets. While this standardization supports assessment, it limits the evaluation of creativity and innovation. As a result, students’ creative potential often goes unrecognized.

To counter this, learner-centered approaches like Project-Based Learning (PBL) have become more popular, promoting active learning, collaboration, and real-world problem-solving. Evaluation methods such as rubrics, peer assessments (Topping, 2009), and self-assessments (Boud, 2013) are used, but they struggle to capture originality beyond set criteria.

This study introduces an evaluative concept from contemporary art – “creative deviation” – which values nonstandard processes and novel outcomes. It explores how this approach can enhance assessment practices and better support student creativity in learner-centered classrooms.



2. Creative Deviation

Creative deviation is the intentional addition or omission of steps within a standard creative process, leading to unexpected and novel outcomes by enhancing existing pathways or removing unnecessary procedures. In school education, evaluating such deviations is difficult due to the emphasis on predetermined achievement goals and standardized assessment frameworks that prioritize adherence to established procedures and measurable outcomes.

In contrast, real-world innovation thrives on creating new objectives beyond preset goals to generate greater value and drive progress. Educational activities like crafts, art, writing, and culinary practices often follow standardized procedures, causing learners' unique innovations to be seen as "noise." However, in the case of art, the creativity of artists such as Duchamp(1887-1968) and Banksy(1974-), who deviate from society and art style, has led to the articulation of new values and also to the promotion of meta-awareness in society. This approach is a way of thinking that preserves constructionism, and these unique contributions significantly enhance the diversity and richness of outcomes in genuine creative endeavors.

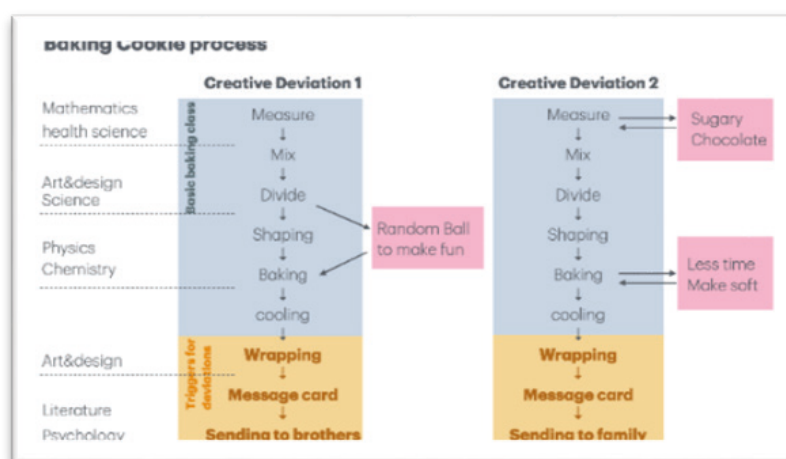


Figure 1: Pastry-Making Process and Deviation.

3. Experiment

To observe learners' deviation behaviors, an experiment focused on pastry making was conducted, a process usually following standard procedures for conventional outcomes. Twenty-five participants aged 13 to 14 were divided into seven groups of three to four members each and assigned the theme "Cookies for Someone." Within their groups, learners engaged in trial and error to produce three to five batches of cookies. In addition, the workshop facilitators were encouraged to support deviations from the sympathetic perspective of "I don't understand it, but it's interesting."

As shown in Figure 1, the pastry-making process integrates knowledge from mathematics, physics, chemistry, and biology during measuring to cooling, while wrapping to sending involves art and psychology. Lessons were designed to encourage deviations based on personal interests, such as varying cookie sizes against standard instructions or using alternative measuring and baking methods, as highlighted by red cards in Figure 1.

4. Results

After the class, interviews were conducted and all the events that occurred in the cookie baking experiment, as well as the learners' reasons and intentions, were recorded on sticky notes and color-coded. Figure 2 (left) shows these events chronologically; the right-side maps them along two axes: traditional confectionery criteria and deviation from instructors' expectations, as assessed by two contemporary art experts.

Examples in the lower right quadrant include baking various dough sizes to entertain a sibling or express personality – actions uncommon in standard classes. While rated lower by traditional standards, these deviations are highly valued in contemporary art for their originality. Such varied outcomes highlight the importance of recognizing creative trial and error as a new axis of value beyond conventional assessments.

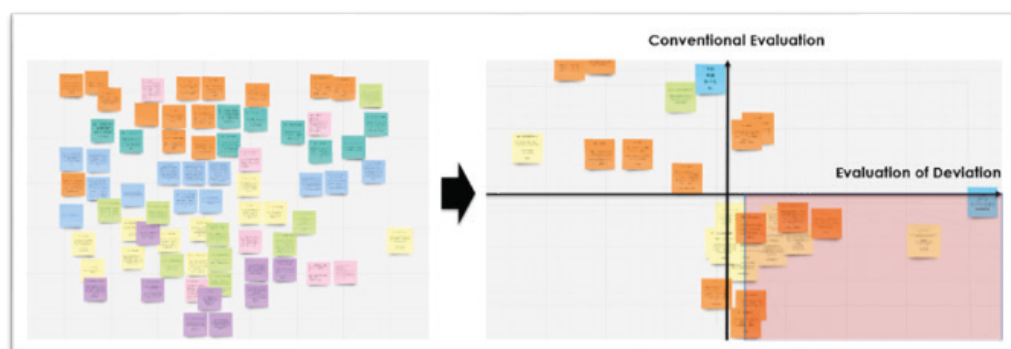


Figure 2: Mapping of Events along the Creative Deviation.

5. Discussion and Future Work

This study introduced “creative deviation” as an evaluation axis to assess learners’ originality within learner-centered assessment, supported by experimental case studies. Currently, the evaluation perspective of creative deviance is well oriented, but there is some variation in its evaluation. In the future, we will challenge ourselves to more clearly verbalize and scale this perspective. Future research will apply this perspective in classrooms, develop methods to measure creative deviation, and examine its independence from existing frameworks.

The study also aims to integrate it with traditional constructionist assessments and expand its use to fields like fashion and architecture, where diverse knowledge and physicality-based themes intersect.

References

- Topping, K. J. (2009). Peer Assessment. *Theory Into Practice*, 48(1), 20–27.
 Boud, D. (2013). *Enhancing learning through self-assessment*. Routledge.