

Proposal PI: *CONFIDENTIAL*****

Evaluator: KM Smith, PhD

(Note: Evaluator's name is not revealed to proposal respondents)

Criteria for Grant Selection

Score

Innovation (10 points)

9

Evaluator Comments:

Your proposal represents a research or development project that is novel. Although personalized assessments are a heavy topic of conversation among educators, there is not a lot of discussion surrounding virtual personalized assessments for online learners. This proposal represents an innovation that is a refinement on an existing process, technology, or approach. A non-profit training organization, Q.E.D Foundation, proposed a similar project in 2014. Consequently, Q.E.D's proposal focused more on the process of developing personalized assessments within the learning management system by use of rubrics, contrary to your proposal of an actual software program.

Foxcroft Academy, in Maine, introduced personalized assessments by use of student's digital portfolios, but aligned with the primitive use of rubrics to guide the assessment of student learning. Moreover, in your proposal, you stated, "*Our approach is different from synchronized, randomly-generated question ordering systems (e.g. ANGEL or Canvas) because it allows for the assessment creation system to be completely disconnected from the evaluation system,*" acknowledging that this is a spin-off from a pre-existing idea. Conversely, your innovation appears to apply a new approach to an existing idea.

Enhancing learning (10 points)

10

Evaluator Comments:

Your proposal has the potential to improve teaching and learning through an online innovation, as demonstrated by your focus on academic integrity and the program's protocol relying on learner's critical thinking during assessments. Your use of gamification and providing "Angry Birds" as analogous to learner's repeated tries in order to accomplish a goal once they are engaged, really honed in on the attractiveness of gamification for online learning.

Your proposal represents innovation that has the potential for long-term impact in teaching and learning. Your highlighting the program's automaticity and little human intervention for long-term use displayed the reality of the software's independent operability, with low cost maintenance.

Your proposal represents an issue of interest to the field of online learning. Multiple studies (Son & Kim, 2016; Ferreira & Veiga, 2015; Brown & Hurst, 2013) and investigations have examined personalized assessments. Educational institutions are actively sharing and implementing personalized learning toolkits and processes. Yet, no single software program has the ability to authenticate consistent and stable methods that require very little instructor intervention.

References:

Brown, A., & Hurst, F. (2013). Competency-Based Education at Northern Arizona University: Personalized Learning and Assessment of Learning. *FROM THE EDITORS.*

Ferreira, F., & Veiga, R. A. (2015). Towards personalized assessment and evaluation in electronics engineering. In *Information Processing and Control (RPIC), 2015 XVI Workshop on* (pp. 1-6). IEEE.

Son, J. H., & Kim, J. (2016). Development and Effects of Smart Personalized Assessment (SPA) System for Using of Diagnostic and Formative Assessment in Earth Science Classes. *Journal of the Korean society of earth science education, 9(1), 1-14.*

Alignment with Themes of Personalization and Student Retention (10 points)

10

Evaluator Comments:

Your proposal addresses both themes of increasing personalization in learning and student retention. In your proposal, you stated, “*The goal of personalization is met in this proposal by creating a way to generate and easily assess an assignment that is individualized and resistant to cheating or sharing*”. This is apparent in the program’s randomization of assignments based on hash values unique to the learner. The proposal addresses retention through the innovation’s ability to produce unlimited versions of an assignment, increasing learner’s academic success. Research has suggested that academic success correlates to student retention (Chen & Voyles, 2013; Dietz-Uhler & Hurn, 2013; Credé & Niehorster, 2012).

The proposal represents an innovation that has the potential for long-term impact in regards to focusing on enhancing teaching and learning through online innovation.

References

Chen, S., & Voyles, D. (2013). HESI admission assessment scores: Predicting student success. *Journal of Professional Nursing, 29(2), S32-S37.*

Credé, M., & Niehorster, S. (2012). Adjustment to college as measured by the Student Adaptation to College Questionnaire: A quantitative review of its structure and relationships with correlates and consequences. *Educational Psychology Review, 24(1), 133-165.*

Dietz-Uhler, B., & Hurn, J. E. (2013). Using learning analytics to predict (and improve) student success: A faculty perspective. *Journal of Interactive Online Learning, 12(1), 17-26.*

R&D team is well prepared to execute the project (5 points)

4

Evaluator Comments:

Your proposal explains what must be done, the skills required, and demonstrates that your team has those skills by providing bio’s for all team members supporting materials displaying a walk-through of the software program. Your team’s bios indicate an appropriate level of experience in measuring human cognition, software engineering, instructional design, and cyber security.

Your team is not diverse, as it does not span across departments, units, colleges, and campuses. All members are from Penn State’s College of Information Sciences and Technology. I would suggest reaching out to contacts from other departments within the University, or potential partners at other institutions. You may want to consider connecting with entities outside of academia, with advanced experience with this form of technology.

Applicability (5 points)**5**

Evaluator Comments:

Your project has potential for a beneficial impact beyond the context for which it is developed and outside of Penn State. There are positive implications for fitness and healthcare by use of your personalized assessments. I envision this program as a tool people access when creating personalized meal plans unique to one's characteristics. There are similar apps available, however, the parameters are narrow and lack specificity. Likewise, healthcare practitioners could implement personalized assessments when determining treatment plans. Current practices encompass a "one size fits all" methodology. Imagine a tool with capabilities to dissect human intricacies; patients will experience better health outcomes.

Cost effectiveness (7 points)**4**

Evaluator Comments:

The preliminary budget detail expenditures of the proposal. The budget narrative clearly and succinctly explains the purpose of the requested funds. The funds you have requested are reasonable given the potential contributions of the project. It may be helpful to provide a synopsis detailing a comparison of this proposal's salary levels, benefits, and allowances to past salary levels, industry standards, market salary's and official benchmarks. Additionally, I would recommend an abridgement of the numbers of staff, level of effort and skill levels alignment with programmatic objectives and targets to justify that the numbers are appropriate for the activities proposed.

The budget narrative explains the purpose of the requested funds. Itemized unit costs would support judicious use of funds related to the proposal outcomes. While, non-normative, an additional level of limpidity could be accomplished if you were to exhibit unit costs to make certain they are reasonable and consistent with actual costs for similar expenditure and/ or external market information. I would be interested in exploring if the proposed costs are suitably allocated to its relevant objectives. The budget you have developed calls for a little more transparency.

Feasibility (5 points)**5**

Evaluator Comments:

Your budget, including contributions of time or funds, appears sufficient for the proposal. Your proposed timeline appears ambitious. As a recap, spring 2017 (3 months), five team members are tasked to complete development of ten exercises and explore badging systems.

I am suggesting for you to clarify what defines "explore". Moreover, a synopsis of what development involves would conceptualize the process. However, according to the screen shots appended in the proposal, it appears as if the template is in place.

Research/Evaluation Plan (10 points)**8**

Evaluator Comments:

Your proposal includes research and/or evaluation questions:

- *How can the software be implemented in a variety of different academic domains?*
- *How do students and instructors perceive the value of this new type of assessment?*

- *What are challenges for instructors creating their own exercises using the software?*
- *How does instruction utilizing this alternative assessment compare to current practices?*

Your proposal lacks a plan describing how the impact of the implementation of the tool will be assessed. You stated on page 2 that the innovation will influence learning by offering badges as a reward through the gamification feature, yet I was unable to locate any mention of how you plan to assess the implementation of the program.

Your proposal's assessment of effectiveness links to the goals, objectives, and problems in which the project seeks to address. In your proposal, the problem is stated as, "*the need to provide robust homework and lab assignments in the modern, Internet-connected college environment*". The proposed program is appropriate in addressing this problem.

The methods proposed to determine the effectiveness of the project are appropriate given the nature of the goals, objectives, or problem the project seeks to address.

Potential to generate subsequent research and funding (5 points)

4

Evaluator Comments:

It is likely that this project will stimulate other projects of value. As I stated previously, there are positive implications for fitness and healthcare by use of your personalized assessments. Additionally, this provides a framework for micro-credentialing (badging).

The proposal does not acknowledge follow-up projects. This leaves me unable to evaluate if the follow-up projects will be attractive to foundations and agencies that fund educational innovations or educational research.

Dissemination Plan (3 points)

3

Evaluator Comments:

Your proposal includes a dissemination plan for informing others about the project. The dissemination plan will engage the College of IST faculty, students and faculty at the symposium, and industry peers at a national conference. Another avenue of dissemination could include journal publications to offer a wide range of distribution tools that are "tailored" to promote achievement of your dissemination goals with each specific group within your target audience.