

TODAY'S CHALLENGE **TOMORROW'S INNOVATION**

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CHALLENGE STATEMENT #06

1. Challenge Owner Index and Pseudonym

#06 – BEEHIVE

2. Challenge Statement

How can trainers be provided with relevant and timely data that can be used to improve the quality of delivery and engagement in their teaching?

3. About the Challenge Owner Organisation

Beehive is an early childhood training organisation which delivers courses for early childhood educators. We run a range of courses for the preschool sector at different levels and durations. Our faculty consists of full-time and adjunct lecturers who conduct face to face, online and hybrid courses for students from a variety of educational backgrounds and over a wide age range (including young adult and older mid-career learners).

4. Define the Challenge

Current Situation

Lecturers need a system that could provide critical teaching data which can then be used to help them improve their quality of teaching.

Background of challenge:

- It is important for lecturers to have a ready source of feedback to obtain information about the effectiveness of their teaching, so that they can review how to improve their teaching quality.
- Currently, feedback on teaching is provided via scheduled in-person lesson observation sessions and student feedback (derived from post-module surveys).
- The in-person lesson observation sessions are manpower intensive and conducted ~1x a year, and the survey feedback is not timely (as it is after the course).
- This raises the need to provide lecturers with timely teaching data in an easily accessible, consistent and regular manner to improve the quality of teaching.
- Having such data on-hand will allow the lecturer to “self-help” and take ownership of their own teaching improvements. If the data is quantifiable and easily consolidated, it will also allow the organisation to monitor the overall teaching quality of their faculty.

Past & Current Solutioning Efforts

Lecturers receive feedback on their teaching following scheduled lesson observation sessions which are usually carried out at least once each year. The feedback lecturer receives covers the following areas:

- Clarity of presentation

- Ability to engage students

While lecturers can reflect on the feedback provided and incorporate them into subsequent lessons, the lack of follow-up lesson observations translates to lecturers either having to wait for their next lesson observation to obtain feedback on how they have progressed since the last observation or for the lecturer to use proxy indicators to measure the effectiveness of their intervention measures.

Challenge / Gap / Unrealised Potential

- Formal feedback on teaching is only provided after scheduled lesson observations which tend to be summative in nature. In addition, these are random and done more as a checking process rather than for the purpose of learning and improvement.
- By providing a less labour-intensive and more objective data-driven approach, lecturers can use the data to improve on their lesson design and delivery. Through the data gathered, they will also be provided with greater understanding on the type of lessons that will be effective for early childhood training.

5. Targeted Learners / Users

The target users will be faculty who teach Continuing Education & Training (CET) students. They would comprise of novice to very experienced lecturers who, although possess strong early childhood practitioner background, may not be highly skilled in teaching adult students. They would be teaching a group of 20 to 35 students for each class and would be teaching their classes for 2-to-6-hour sessions. They would already have some experience teaching online sessions and have some grasp of simple engagement tools e.g. MS Teams, Padlet, poll, quizzes.

We have about 100 full-time and 100 adjunct faculty who may benefit from the solution. Pilot testing can be done with 30 faculty from one campus.

6. Solution Partner and Deliverables

The solution partner should have:

- Familiarity working with the higher education sector, its environments and challenges.
- Capability in developing a smart system that can capture data from human interaction would be an advantage.
- Knowledge on how learning technologies can improve learning feedback through response detection.
- Familiarity with knowledge related to lesson design, lesson delivery and lesson assessment.

7. Expectations of Solution

The solution should be able to analyse lesson recordings and provide a breakdown of what percentage of time the lesson was used for. E.g. Engagement level, intensity of activity, frequency of student response, quality of interaction between lecturer and student, tone of delivery, pace of delivery, frequency of 'state' change in lesson etc.

- It should be able to graphically represent the flow of the session and provide suggestions on what could work better.
- It should leverage on technology with a smart solution that can break down and unpack the "art of good" into some measurables, that could be easily understood and used as objective points for lecturers to reflect and improve their lesson delivery.

- The solution should support a range of delivery formats such as face-to-face, online session hybrid, lecture/tutorial, etc. A priority can be given to online session delivery for a start.
- To promote reflective practice, it is hoped that through continued use, lecturers can be provided with such feedback in a more regular manner such that it informs the lecturer of their progress and development over time.
- The system should provide lecturers with “data visualisation” of their lessons that will enable them to reflect on the quality of their lesson delivery.
- The solution can take into account variations of profiles of lecturer or student which can be input within the system to generate a contextualised “reading” of the lesson.

8. Measures of Success

Selection criteria:

- Ease of use of system
- Quality of proposed solution
- Implementation plan

Evaluation method:

- Qualitative feedback provided (including accuracy of algorithm in detecting the quality of teaching/ interactions/ engagement, and insightfulness of feedback)
- User-friendliness of data generated
- Ease of set-up and implementation of smart system
- Flexibility of use of the smart system

Observable outcomes:

- More reflection and intentional lesson design
- Better quality of lesson delivery
- Lecturers and students are more engaged in their sessions

Measurable outcomes:

Success from an organisation lens

- Organisation has a good sense of the overall teaching quality of all its faculty
- Organisation is well staffed by faculty who have greater clarity around what constitutes good teaching
- Organisation can use the data to develop a signature approach for early childhood teacher training

Success from the lecturer lens

- Every faculty can have ready access to accurate and insightful feedback on their teaching
- Faculty have a systematic and objective way of increasing learning delivery scores
- Faculty can adapt lesson to different situations to suit different student profiles
- Faculty can use the tool for their own professional development as a lecturer

Success from the supervisor lens

- Supervisors can use the diagnosis to facilitate a conversation around what went well and what could be done better
- Supervisors could use the data to facilitate overall staff development, not just based on one snapshot
- Success from the student lens

- (Longer-term outcome) With improvements in teaching quality,
 - Students are more engaged in lessons
 - Students are more inspired and motivated in their learning