



**SHAPING SUCCESS ACTION
RESEARCH PROJECTS**

**FINAL REPORT ON THE SHAPING SUCCESS AR PROJECT –
GAMIFICATION AND CLOSING THE FEEDBACK LOOP**
Newcastle College

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For further information regarding the Shaping Success Action Research programme and this project go to <https://ccpathways.co.uk/practitioner-research/otla-7/>.

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Final report - Gamification and closing the feedback loop

Newcastle College

This project intended to study and develop rich feedback within the classroom using the tool of gamification. The project set out to assess how gamification can develop the teachers' activity toolkit and create fulfilling, deep and rich feedback which empowers the students.

Summary

This project started off as two projects, one focused on how feedback was developed within the classroom to encourage student autonomy and the other angled towards using game mechanics to motivate students.

This merging of projects was ideal for our organisation, a large FE inner city college. We realised there was a theme occurring within our staff reflections that feedback felt 'meaningless' and students didn't engage with the process. We had to consider how we inspire our staff to become more proactive and reinvigorated, especially with the ever-changing hybrid delivery models of continued imposed lockdown measures.

Rationale

Our project intended to develop engaging and meaningful feedback and decided to use gamification as the tool to help with this. We felt this was important for three reasons:

- to introduce feedback approaches which could be applied within blended delivery
- to develop staff CPD to support students
- to challenge a 'fail mentality' evident in students having to re-sit a core subject.

We had to consider what would be effective in hybrid delivery because originally our project intentions considered multiple forms of feedback and was heavily reliant on face-to-face delivery. This focusing in of the research was responsive to our colleagues and students who felt the disconnect between online learning and the class meant a lack of continuity in topics and feedback. Our rationale then became to engage and develop that immediacy to get rich learning experiences back in the classroom and we chose gamification as the vehicle of this change.

Approach

We broke the project into a cycle similar to that of Kolb's Experiential Learning Cycle (1984) See Appendix 7.

Phase 1: Conceptualising/trialling

The two project leads found activities and approaches that would fit into the gamified feedback approach, including:

- card sorting activities that could you used in a variety of level challenges

- ‘Collaborate Boards’ (Nearpod) where learners could share their ideas in either work or image form and instant feedback can be given from teacher and peers
- polls
- ‘Draw It’ (Nearpod) – a useful tool for annotation of texts
- ‘Time to Climb’ (Nearpod) and quizzes – gamified quizzing in the class where the students could pit themselves against each other.

We intended to use this phase to encourage our staff and students to lead the research and feed back which concepts would work. Instead, due to COVID-19, we only tested immediate feedback approaches which allowed our project to be manageable in the circumstances. We used Nearpod, an online interactive student engagement platform, to support our hybrid delivery model. Examples of such activities can be found in Appendix 2 and 5.

We were moving our practice from ‘here’s everything you don’t know for your grade’ to one of ‘here is where you are on your journey’ and staff and students tackled learning as an experience or ‘level’ rather than an end goal task. This shift in learning dynamic transcended digital delivery and started integrating within classes and teams as an expectation. One student noted, “my classes feel more energised lately”. They also seemed to become more independent in a home learning situation with feedback such as, “I don’t need my teacher for this”.

Phase 2: Reviewing and finalising

The leads invited staff who would ‘buy in’ to this process to help lead and develop the research. Activities were then trialled in a range of classes. The reason we wanted a spread of vocational aspects and ages was to allow us to tackle some perceived challenges of gamified feedback. It was felt this would only work with more artistically inclined students so picking a spread of staff and cohorts to deliver gamified learning to allowed us to see if these initial thoughts were warranted.

Phase 3: Implementation and experimenting

The project team delivered our proposed activities to the students. We wanted this to be with the students and encouraged them to shape the project as our intention was to empower the students and not merely impose ‘sanctions’. For us to be able to evaluate, we carried out student polls using Likert scales on approaches, learner voice activities and polls to see which activities were perceived successful. (See Appendix 3 and 4.)

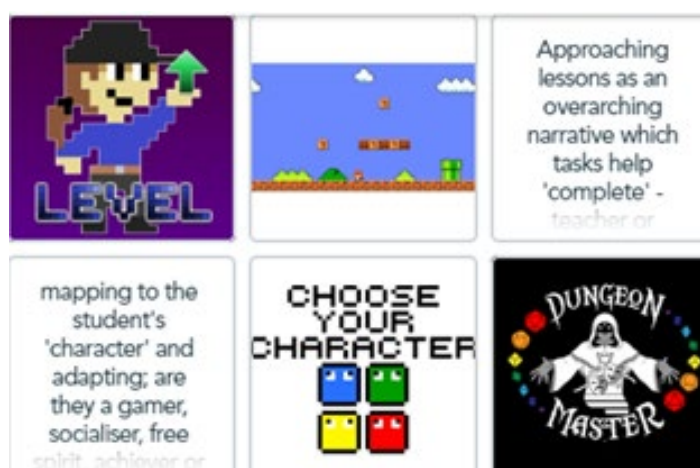
Phase 4: Feedback and reflection

This led to collection of data and deciding next steps. Immediate feedback from learners enabled us to choose approaches that resonated with our classes. From the results of the tally chart (Appendix 5), we focused on tracker bars, timed competitions and classroom roles. From here, we then looked to our own classes to assess whether the approaches used have made a quantitative improvement to the class and used other teachers to support our findings.

Professional learning: Evidence of changes in teaching, learning and assessment practices

We knew the gamified feedback approaches described above would require staff development. We felt our staff might be sceptical about gamified feedback due to the many adjustments they were already making especially with the technological 'boom' that March and the lockdown created in the education sector. However, instead of this being a barrier, lockdown seemed to have a motivational effect on our staff. They were excited and open to new concepts, especially techniques that would tackle the student/teacher divide on digital platforms. This educational 'reset' led to our teams being proactive in self-led CPD and actively experimenting in the classrooms. This shift in staff perception wasn't just within our team; we were lucky enough to deliver cross-curricular CPD around gamified learning and found many teams and areas excited by the process. Some examples of comments from the training are found in the Appendix 6.

The change in staff behaviour and openness to technology led to a change of student perception and an adjustment of power dynamics within the classroom. Resit classes which had been taught using a didactic, teacher-led approach became a collaboration between staff and student which further created a change in how planning and assessments occurred within classes. Assessment planning moved towards a 'skill developed' approach for instance, an experience point system. In this example, an experiential point system is a mechanic found in role playing games- starting a learner or 'player at 0, with tasks giving experience points which equate to a level/mastery of the subject.



Staff are adapting and redesigning their approaches within a classroom. Staff engagement with gamified feedback is going beyond the methods trialled in this project. Staff are working interdepartmentally, such as an LDD and English project, to create approaches and resources that fit their learners' needs. Colleagues are showing ownership of the techniques and a playfulness to trying new approaches within the classroom.

Evidence of improved collaboration and changes in organisational practices

Although our project intended to focus on the learner and how they engage with feedback, it has been a wonderful benefit to our project that staff and departments seem motivated to develop and engage new technologies with one another. As stated in the previous segment, the enforcement of online delivery benefitted us greatly as it changed staff mindsets to one of experimentation and engaging with new approaches. This can be seen in staff being proactive in CPD sessions where sharing best practice was the focus. Previously, teachers' delivery model of lecturing to students encouraged learners to behave passively in classrooms. The use of new approaches seemed to invigorate the staff who took the onus of creating their own ideas and began actively sharing documents and approaches with other teachers within these sessions. This can be seen in Appendix 6 as well considering ideas such as classroom charts for points and 'de Bono Hats' (de Bono, 1992) for roles within classrooms.

Evidence of improvement in learners' achievements, retention and progression

Gamified learning has led to an improvement to the students' work both in a quantitative manner of scoring/attendance and qualitative feedback from the students' experiences. Here is an overview of the results of the study thus far:

- *Classes show higher levels of 'success' via measures.* The classes reviewed for this project showed increases in attendance, notably online engagement and have achieved better standard testing results. For example, one class of adult Level 2 learners showed an average of 20% improved attendance online and have more students through their qualification then compared to a similar class last year.
- *Classes show proactivity in their own learning.* Creating a learning experience with ample gamified learning has put the onus on the learners. Learners feel motivated due to constant commentary on their progress and feel they can successfully evaluate where they are achieving. This, coupled with student access to gamified tracking and progress (such as level design, scoreboards), means the student is in competition with themselves and appears more driven to improve.

Quantitative measures:

Attendance: The classes that engaged most with gamified feedback had the biggest increase/maintained level in attendance, especially within online lesson delivery. As a hypothesis, those who engaged well with the project had classes that tended to attend more and more regularly. This was seen within the apprenticeship provision and the creative art classes; however, certain provisions, such as heavily ESOL based classes did not seem to be affected by gamified learning principles as activities such as ClassDojo are regularly integrated within their learning experience.

Results: We have seen some students make progress that might be related to gamification; for example, a student demonstrated a 15% increase within his functional skills writing assessments via working independently with gamified

feedback. (We used Nearpod, timed activities and student-led open-ended questions for this). In mini assessments and Functional Skills, like for like comparison of classes at this point are showing a general increase in results from the same time last year despite a prediction results would be lower due to on/off lockdown regulations. In conversing with the staff and colleagues, this is perhaps due to the two-fold effect of consistent praise/awareness of their current standing as well measurable actions for the students to engage and develop. It could also be noted that these new approaches themselves may be the invigorating factor as discussed in the previous segment.

Qualitative measures:

“I finally know where I’m at; I’m not a failure, I got this”; a quote from one FE resit student that resonated with us during this project when collecting feedback from students and staff (More examples of quotes can be found in Appendix 6). By redeveloping the feedback, the class itself feels ‘different’ and more student led. Many students commented that the teacher was ‘there to support them’ and not merely ‘going over the same topics from school’.

Student Quotes

“I like choosing what’s going to help me the most”

“lessons seem more fun recently since we started using the trackers”

“I don’t feel confident enough to pick what I don’t know- if I knew that, then I’d pass”

“my classes feel more energised lately”

This was a welcome consequence of the project; the students experienced a method not seen in their school which created a platform for a fresh start, a fresh FE English and Maths. Students stated they felt ‘a reason for being in the lesson’ and that ‘everything was to make them better’; a departure from the sometimes-perceived fail mentality resit classes can create. Not only this, but students in learner voice activities knew what their current progress was and had suggestions on how they could improve. This was an improvement over the passive nature of some resit classes.

Learning from this project

Even better if:

- *Considered the strands of project at an earlier date.* In reflection, although we designed our first part of the cycle to be a filtering process to focus our research, it was probably too large scale to filter multiple activities as well as multiple forms of feedback. If we considered just one strand of feedback, as we did within the project, then perhaps our class selection and move to class trials would have been smoother.
- *Retrospective consideration of COVID-19.* The wealth of knowledge and skillsets we were developing within our project are just the beginning. It would have been ideal to have more time to develop these further in contrast to more time dealing with all the issues of working in a large college during COVID-19.

Knowledge taken forward:

- *Features of immediate feedback.* I think we, as colleagues and a college, are really developing strength in our immediate feedback and how we can make the process more engaging. Moving forward, it would be interesting to apply these theories to more extended feedback models.
- *Strength of gamification in English and maths.* At this point in our action research, teachers are hitting their stride with using gamified learning within English and maths where we are seeing growing strength and confidence in using the strategies. Moving forward, it would be interesting to apply these principles and see if they fit in other segments of the educational setting; does gamified feedback transfer to vocational learning or non-FE based settings?
- *Skillset applied to a training procedure.* As colleagues and a team we are gaining skills in adapting existing tasks and methodologies and applying them as gamified feedback. Moving forward, is this something that we can create and design as a toolkit? Is this something we could create as an induction toolkit or help develop with our teacher education provision?

References

De Bono, E. (1992). *Six Thinking Hats for Schools: Book 3*. Cheltenham, Victoria: Hawker Brownlow Education.

Kolb, D., 1984. *Experiential learning*. Englewood Cliffs: Prentice-Hall

Appendix 1 – The project team











Project Role	Name	Job Role
Joint Project Lead	Kieran Stevens	Curriculum leader- E+M
Joint Project Lead	Lynsey Elliott	Curriculum leader- E+M
Teacher	Alana Bennett	Curriculum Leader – E+M
Teacher	Laura Brown	Curriculum Leader – E+M
Project Mentor	Lesley Littlewood (ccConsultancy)	
Research Group Lead	Tricia Millar (That Reading Thing)	

Appendix 2 – Nearpod activities with Gamified Feedback embedded.

These are some samples of gamified activities used within the Nearpod program that we have used to trial gamified feedback. We have included activities similar to those already in a practitioner’s toolkit to show how editing of concepts can apply to gamified learning. We also have attached data that a teacher may see from this program; demonstrating how this feedback can be tracked in a quantifiable method.

Hopefully you can see how we can adapt our activities in a gamified sense:
Can you match these further gamified feedback tasks to the prompt?

Slide 8 / 9

			Approaching lessons as an overarching narrative which tasks help 'complete' - teacher or	teacher role is auxiliary- they are the 'dungeon master' and thus more onus on students as the 'players'
	mapping to the student's 'character' and adapting; are they a gamer, socialiser, free spirit, achiever or	CHOOSE YOUR CHARACTER 		returning to learning as returning to 'levels' allowing students to progress further and gain more
				



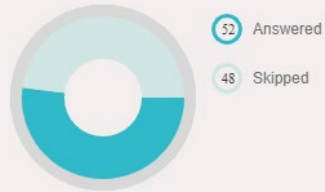
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Author: Christine Arnold - Slides: 9 - Date: Thursday, December 10, 2020 02:40:20 PM

SUMMARY

Poll Open Ended Matching Pairs Collaborate Board

Student Participation General

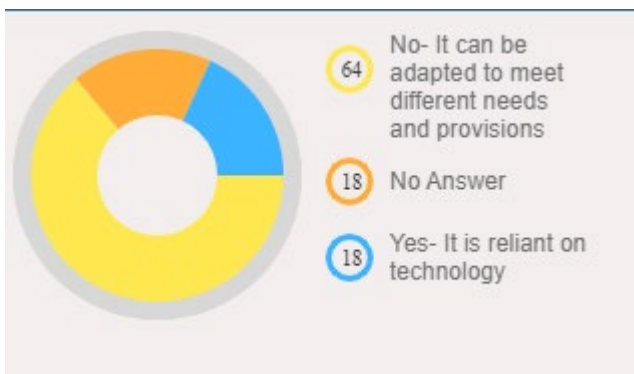


Student engagement details

Students: # 11

What does gamification in education mean to you?
Use of images and text to contextualise this

Student	Response	Hearts
Lianne	Feedback from quizzes like Kahoot	1
Natalie	Games	1
Kate Mulligan	not sure, but keen to find out	1
Andy Convery	playing games to achieve learning objectives	1
Sophie	Feedback that is engaging, quick and fun	1
Carl	Hooks for relevancy to learners?	1
Ruth	I've never heard this word before	1
Sophie	different platform to re engage students	1
stephen connell	engaging with familiar platfoems	1
Natalie	Game based learning	1



Convert the following into metres: a)600cm b)350cm c)50cm Convert the following into centimetres: a) 2m b) 36m c) 0.25m

Student	Response
Becca	No Answer
Becca	A) 6m B) 3.5m C) 0.5m A) 200cm B) 3,600cm C) 25cm
Billie-angel	6 Y 3.5. Y 0.5. Y 200. Y 3600. Y 25. Y
charlotte	No Answer
Ellie	a) 600cm = 6m b) 350cm= 3.5 m c) 50 cm = 0.5 m a) 2m = 200cm b) 36m = 36000cm
James	A. 6 B. 3.5 C. 5 200 3600
Jonny	No Answer
Luke	600cm= 6m 350cm= 3.5m 50cm= 1/2 m 2m= 200cm 36m= 3,600cm 0.25m= 25cm
Mya	1.=6 2.=3.5 3.=0.5 1.=200 2.=3,600 3.=25
ross	a) 6 m b) 3.5 m c) .5 m a) 200 cm b) 3600 cm c) 25 cm
vivienne smith	No Answer



36 No Answer
64 Free Text

Student	Score
Becca	7/8 (3563 points)
Billie-angel	5/8 (3778 points)
charlotte	7/8 (5440 points)
Ellie	6/8 (4140 points)
James	4/8 (3140 points)
Jonny	7/8 (5553 points)
Luke	4/8 (3131 points)
Mya	6/8 (2990 points)
ross	5/8 (4267 points)
Student #010	5/8 (3146 points)
vivienne smith	0/8 (0 points)



64 Correct Answer
22 Wrong Answer
15 No Answer

Appendix 3 – Likert Scale Questionnaire

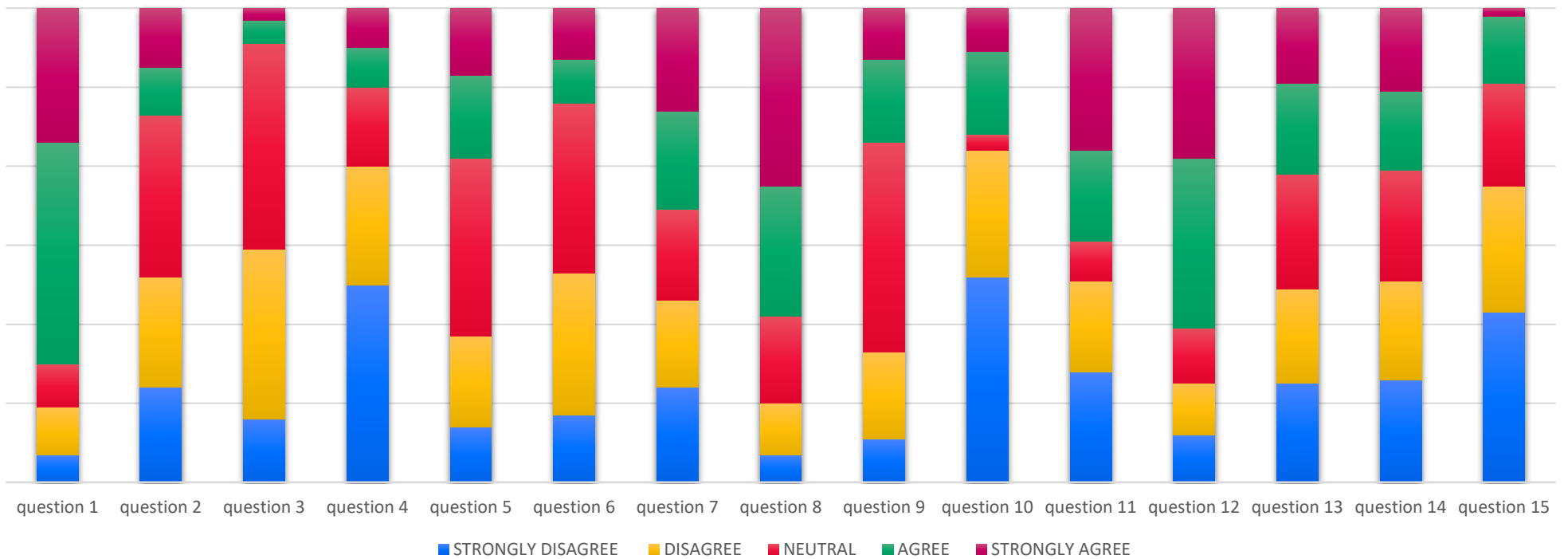
Feedback and Learning Likert Scales

	Perception Immediacy Engagement	Strongly Disagree (1)			Strongly Agree (5)	
	Question	1	2	3	4	5
1	You know what level you are currently working at [P/I/E]					
2	You know what you need to do next to improve [P/ E]					
3	You feel communication in your feedback is strong [P/ E]					
4	You feel in control of your learning [P/E]					
5	Feedback is given enough for you [I/E]					
6	Feedback in class is fun [P/E]					
7	Feedback is the same online as it is in person [P/I/E]					
8	The teacher is control of my progress [P/I/E]					
9	Activities are tracked to my learning [P/E]					
10	I help shape what learning I need to do in class [P/]					
11	I know immediately if I did good in a task [I/]					
12	Feedback is focused on how to improve [E]					

13	Seeing how we have done is clear in every lesson. [/E]					
14	I give feedback to those in my class [P/E]					
15	Feedback tells me what I've done well [P/E]					

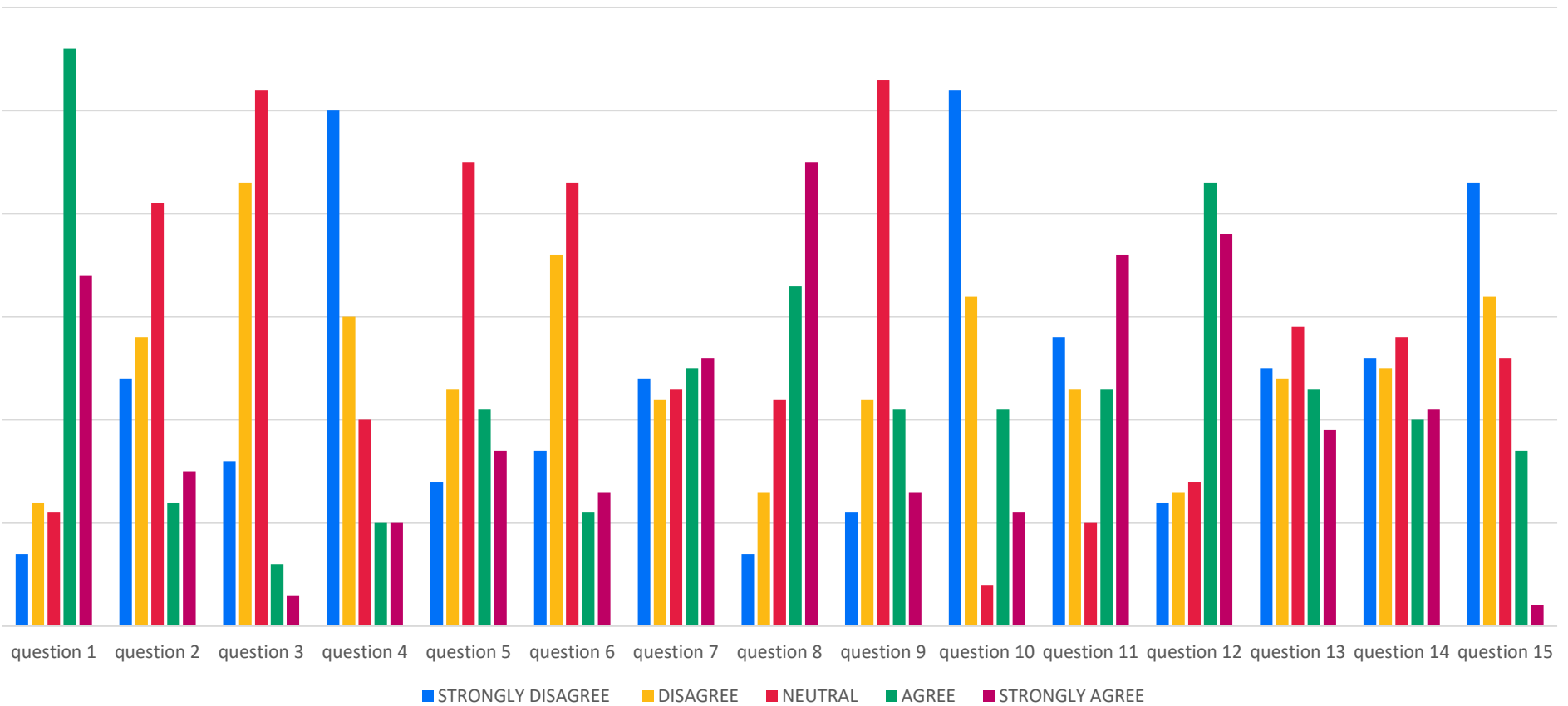
Appendix 4 – Likert scale results

Perceptions Likert Scale Results



Row Labels	Sum of STRONGLY DISAGREE	Sum of DISAGREE	Sum of NEUTRAL	Sum of AGREE	Sum of STRONGLY AGREE
question 1	7	12	11	56	34
question 10	52	32	4	21	11
question 11	28	23	10	23	36
question 12	12	13	14	43	38
question 13	25	24	29	23	19
question 14	26	25	28	20	21
question 15	43	32	26	17	2
question 2	24	28	41	12	15
question 3	16	43	52	6	3
question 4	50	30	20	10	10
question 5	14	23	45	21	17
question 6	17	36	43	11	13
question 7	24	22	23	25	26
question 8	7	13	22	33	45
question 9	11	22	53	21	13
Grand Total	356	378	421	342	303

Likert Scale Results



Appendix 5 – Tally chart from class observations

Learner voice tally.

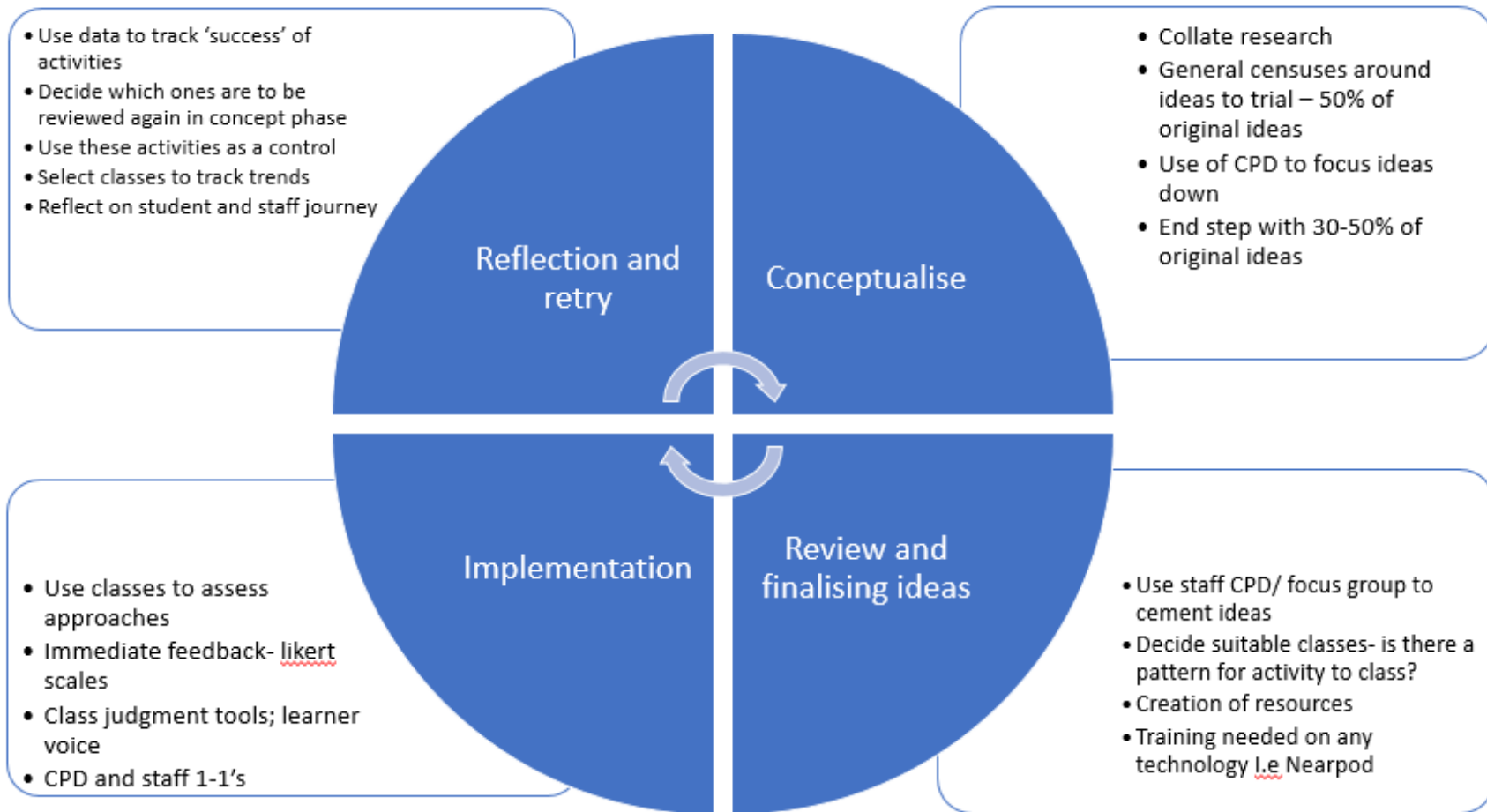
Activity	Score
XP maker	
point tasks	
design a level	
roles in the class	
timed competition	
repeat + rescore	
plan an activity for next lesson	
level up' - harder task	
tracker bars of progress	
repeating last week activity and score	
yay or nay	
listen and reword	
pass it on	
board of progress	
points mean prizes	

Appendix 6 – Quotes from students and staff with comments

Topic/s referenced in discussion	Supporting Quote	Thoughts and considerations
Self-development Awareness Onus on student progress	"I think I finally get where I'm going wrong and what I can do about it"	Students can be empowered via gamified feedback to develop further- adding to the students' toolkit and being explicit about their skillset is motivating.
Factors of stress Barriers to learning progress	"I don't like the competitions as they stress me out... I do feel like I'm progressing though"	Activities need to be adapted and pitched to suit the class- should be seen as a range of tasks rather than a set approach.
Awareness Onus on student Self-driving factors	"my students are really showing awareness of the tasks they're doing...it's almost like a self-reward for getting more points"	Students can be driven in a behaviourist manner with just the ideals of 'points' and self-driven improvement.
Barriers to learning Branding of tasks	"I don't get it...my students don't like games"	The branding and term 'gamification' may be off-putting – emphasis on toolkit adaption than a new gimmick.
Independence Onus on student	"I don't need my teacher for this"	Students can feel empowered to take their own learning in terms if gamified feedback if applied effectively
Independence Onus on student	"I like choosing what's going to help me the most"	Confidence from this can allow students to pinpoint development points.
Engagement Onus on student Tracking/feedback	"lessons seem more fun recently since we	This process may engage stimulation parts of the brain and also be seen as a 'new'

	started using the trackers”	method and thus engage students via novelty.
Engagement Confidence Onus on student	“I don’t feel confident enough to pick what I don’t know- if I knew that, then I’d pass”	Students need ample support in gamified feedback; requires teachers to be facilitatory in their roles.
Engagement Staff and student buy in	“my classes feel more energised lately”	New approaches and engagement can lead to exciting classroom dynamics; especially if previous power dynamics are challenged.
Staff and student buy in Engagement Continuity of programs Further research	“this has so many applications to vocational classes...could we map this across”	Gamified feedback could be a consistent approach across curriculum and be researched as further study.
Adaptation of tasks Engagement Continuity of programs Further research	“This would work well with students with different learning needs.... how does it fit with students with issues such as sight etc?”	Toolkit can be adapted to meet different learner and student needs.

Appendix 7 – Experiential learning cycle of this project



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