Learning from implementation of the rapid-cycle design and testing process

PEDAL RAPID-CYCLE DESIGN AND TESTING LEARNING REPORT: MOVING THE "PLAYTIME WITH BOOKS" INTERVENTION ONLINE

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PROJECT OVERVIEW

This project was a rapid evaluation and learning partnership, focused on using Rapid-Cycle Design and Testing (RCDT) – a cyclic, learning-focused approach to programme improvement developed by the Dartington Service Design Lab ('Dartington'). One cycle includes five well-structured steps: (1) Assess; (2) Design; (3) Implement and Observe; (4) Analyse and Learn; and (5) Pause and Decide.

Dartington's specific objectives in the partnership was to guide (and coach) the team at the University of Cambridge Centre for Research on Play in Education Development and Learning (PEDAL) Centre as they applied each of the five cycle steps to quickly:

(1) adapt the activities/materials of an evidence-based Shared Picture Book intervention for a new target population and for online delivery (instead of face-to-face),
(2) monitor implementation as it was happening and respond to events in real-time,
(3) analyse data and draw insights, and
(4) jointly reflect, interpret, and make decisions using feedback from practitioners and families about whether and how to further adapt their intervention.

This project work encompassed three cycles of the RCDT process implemented across the year as a means to address differing aspects of intervention development, but why was RCDT selected initially as the approach to support this project?

The project team at PEDAL provided some insightful reflections on their motivations for using this approach within the project; these motivations focused on opportunities to identify barriers as the project was progressing and use knowledge in a timely fashion to adapt their intervention for a new delivery model. The team also shared a desire to be responsive to feedback and,

…*wanted to deliver it in a way that worked best for families and for services…[RCDT] gave us an opportunity to disrupt how we deliver interventions.*

The research team recognised that their research questions and objectives lent themselves well to an RCDT approach, recognising that more traditional methods may be slow and typically take a summative approach to learning, considering findings at the end of the project; rather than learning shaping the research process as it unfolds. The RCDT approach to research and design supports development of a two-way dynamic between a research team and those at the centre of the work. This allows the feedback of those delivering and using an intervention to be at the centre of changes to the programme. This allows a sensitive and evidence-informed approach to intervention development.

CYCLE 1: FOCUS AND ADAPTATIONS:

The first cycle of RCDT was focused on the design and delivery of the 'as intended' intervention, with training of facilitators, engagement with online programme materials and use of video calls. The PEDAL team were supported in identifying and considering areas of the intervention design which were core to intervention delivery, and where there was flexibility within the structure which still allowed implementation.

The team worked through the assess and design phases of RCDT to 1) reflect on their theory of change and 2) assess and refine the intervention activities and materials (e.g. recruitment flyers, protocol for video-feedback sessions, facilitators' training manual) in relation to core research questions regarding the feasibility and acceptability of the intervention for both practitioners and families. Working collaboratively with Dartington through reflective conversations enabled the PEDAL team to consider how materials and activities would be implemented within a 6 week timeframe and allowed co-development of criteria related to successful implementation and engagement with the research project. Working collaboratively also enabled development and refinement of data collection tools (e.g. registration form, interview schedules) and monitoring. This process enabled the project team to prepare for a wider implementation of intervention delivery through smaller scale pilot work, within which the research team were able to monitor implementation and review initial data and insights to consider further adaptations and testing that might be needed before a wider roll-out.

Within this phase a small number of families were engaged with the intervention, but insights were used effectively by the research team within the pause and decide stage of RCDT cycle 1 to support decision making around adaptations. Initial feedback from families supported identification of wider programme benefits within their homes, where skills from the intervention were being applied in other areas, such as home learning, beyond just the shared book reading. The team were also able to identify adaptations required when delivering the intervention to parents of the youngest children in the study (10-14 months).

Families facing higher socioeconomic disadvantage, who may be disproportionately affected by barriers limiting their access to early intervention, were prioritised. Challenges in relation to recruitment of families were acknowledged, with an adaptation being considered in relation to strategies utilised within face-to-face settings, and the use of existing networks through children's centres and other family support services. A broadening of the organisations from which families could be recruited in the future was also discussed to enable a greater access to the target participant groups. The team also engaged with snowball recruitment through parent networks and supported family engagement with implementation of initial calls to support project registration, as it had been identified that once parents had accessed online materials, they were usually able to engage in the programme itself.

Feedback from this cycle provided positive insights into the need for this type of activity within the home, with parents valuing dedicated time for shared reading with their child and this extending to wider family members. Some parents needed less or more time to complete the programme than the duration which was originally set (5 weeks) so an adaptation of a more flexible duration (between 5-8 weeks) was introduced, to meet the needs and availability of both the parent and the facilitator.

CYCLE 2: FOCUS AND ADAPTATIONS

This RCDT cycle built upon learning and adaptations implemented from cycle 1, with time through the assess and implementation stages to consider the changes enacted to support facilitators in their engagement with the programme,; these practitioners were identified as key people to support any future roll-out of the intervention. The PEDAL team successfully recruited and trained six professionals from across the sites as new facilitators for cycle 2. To facilitate development of the skills required for successful implementation of the intervention, the team developed a training package that could be delivered remotely, which focused on developing theoretical knowledge, practical skills related to video-feedback, and some 'homework' tasks to ensure good engagement.

The training was responded to positively by practitioners and there was developing confidence from the research team that trained facilitators would be able to implement the intervention mostly unsupervised by the central project team, with only a light touch review. To further support new facilitators within their implementation, the PEDAL team identified families from any socioeconomic group to use as training cases to support skill development before working with families facing higher levels of socioeconomic disadvantage.

With new research sites and facilitators being engaged within cycle 2, opportunities for learning and adaptation were identified by the project team whilst the team continued to improve recruitment amongst families facing socioeconomic disadvantage,. A peer-learning process was implemented to enable facilitators to develop and share their knowledge of

the programme with each other, support them to deliver effective conversations with families about the intervention and consider what would be required from their participation. The team conducted site visits during this cycle to support relationship building with practitioners and to gather more information about what was working and what needed improving, both in terms of recruitment and with delivery of the intervention.

In relation to the implementation of the programme the research team assessed feedback from families. The families identified that once video calls had been set up with their facilitator, they were able to engage with this effectively, with the feedback enabling reflection on positive interactions between parent and child. Parents also felt they were more able to identify these improvements themselves through the online training focus areas, by becoming more sensitive to cues within these interactions. Within this cycle, feedback was also sought from families who withdrew or did not complete the programme, in order to address any challenges to engagement. Whilst most families engaged well, one family reported that they struggled to motivate themselves to engage online as they were used to working in a face-to-face way with practitioners; a core learning for the team being to assess the potential support required to keep families engaged with online materials.

Further adaptations were made based on findings from facilitators. Through the feedback and review of training for new facilitators, changes were made to the intensity of training sessions and a reduction in the amount of homework tasks in the training requirements.. It was also acknowledged that adaptations were needed to support early years practitioners to engage with the intervention; whilst the programme was identified as being acceptable within training, challenges in relation to time available to engage with the intervention activities and associated administration, were noted in practice. A decision was taken by the research team to remove administration responsibilities from the facilitators e.g. enrolling parents in skills sessions, and to shorten the welcome call with the parent at the start (transferring some of this information into a welcome video that parents could access in their own time). These adaptions aimed to make the intervention delivery more acceptable for the practitioners within their working environments. In addition, it was identified through facilitator feedback that those with protected time were able to deliver the video-feedback sessions as intended with families,. However if this was not implemented, there were challenges to effective engagement i.e. time was a core element for consideration in relation to the acceptability of the programme for facilitators. The PEDAL research team utilized the pause and decide stage of the cycle to review possible adaptations to support facilitators in delivery.

Two adaptations were implemented for Cycle 3. A phone call option to replace the (more time-consuming) video feedback sessions was developed to test whether services with less capacity could deliver a less time-intensive version . In addition, the team made use of feedback from families who didn't have time for any contact with a practitioner (video or telephone calls) and where services had no facilitator capacity, to create an offer of a self-directed intervention of knowledge and skill development, through the online

resources without provision of feedback. Cycle 3 was further used to learn about the video call version of the programme, on a larger scale with more families and facilitators and to also assess some of the benefits and challenges of the other two versions, and the effect this would have on the acceptability and engagement of the programme for families.

CYCLE 3: FOCUS AND ADAPTATIONS

The purpose of the final RCDT cycle was to further the team's learnings about the video call programme and review the intervention adaptations, which were running complementary to each other, to consider the key learnings on acceptability and feasibility for families and practitioners. The developed versions were however, not being assessed as to whether one was more beneficial to shared-reading related outcomes for families, (although these were being monitored by the PEDAL team), but rather the consideration was of their acceptability and appropriateness regarding families and practitioners being able to engage effectively with the programme. As part of this cycle further networking opportunities were developed with recruitment sites to assess how different strategies were being implemented into early years practice, with the research team providing additional support where required to facilitate uptake. In relation to recruitment criteria from adaptations in previous cycles, data showed that families from the lowest 50% of education attainment and household income were being actively recruited, with prioritisation of families within the lowest 20% in onboarding to a version of the intervention. This flexibility of intervention delivery was developed as a response to the challenges that some facilitators faced with a lack of protected time, and for some parents who did not have time for any practitioner contact, and it was actively monitored and reviewed as to which versions were being delivered across the different sites.

Developing flexibility in delivery also provided learning opportunities as to future roll-out of the intervention. The feasibility of implementing different models of delivery within new sites could form part of a recruitment conversation, especially where sites have strong access routes to target

families. An additional future adaptation to the intervention could be to look at broadening the recruitment sites beyond early years settings to other organisations and a wider practitioner base, who may have access to target families, such as health settings or other community support.

Feedback from families within cycle 3 enabled insights into how they were engaging with different models of delivery. A few parents who did not have time for any regular practitioner contact due to work or family-related commitments, welcomed the opportunity to participate in the self-directed versions in their own time. For facilitators an adaptation was made during cycle 3 to support engagement with video-feedback sessions; whilst the number of feedback sessions was maintained there was no requirement for these to run at fixed points within the intervention and could be negotiated with families at stages which suited them.

In relation to acceptability, parents were positive about the programme content and online learning and were able to reflect on their own skills development here, with support from facilitator appreciated to build understanding and scaffold shared reading. The self-directed version also showed learning benefits for parents who would otherwise have not been able to engage with feedback delivery.
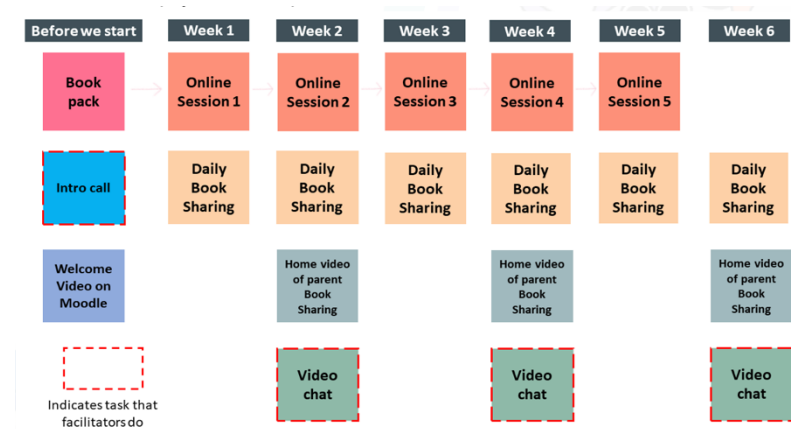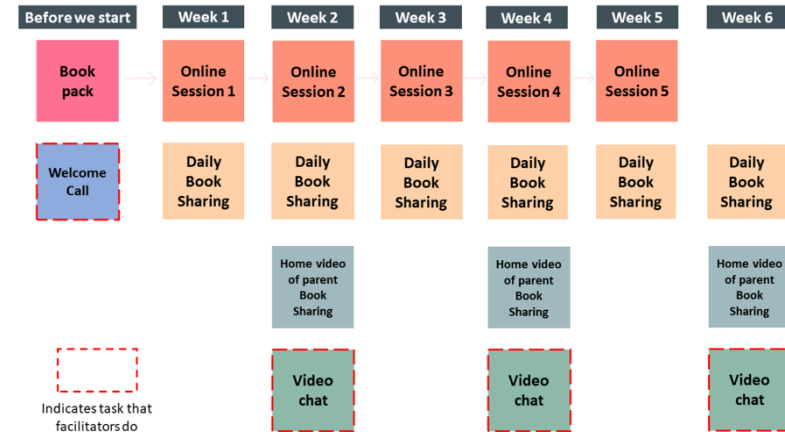
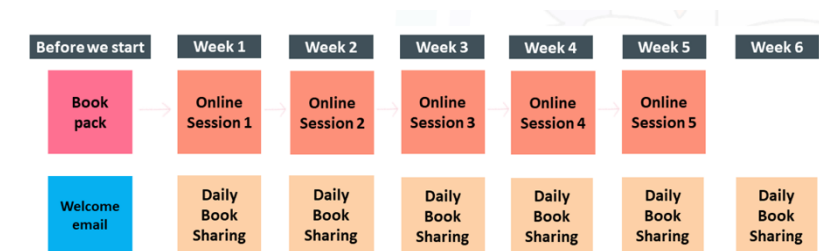# PROGRAMME VERSIONS DEVELOPED THROUGH RCDT PROCESS:
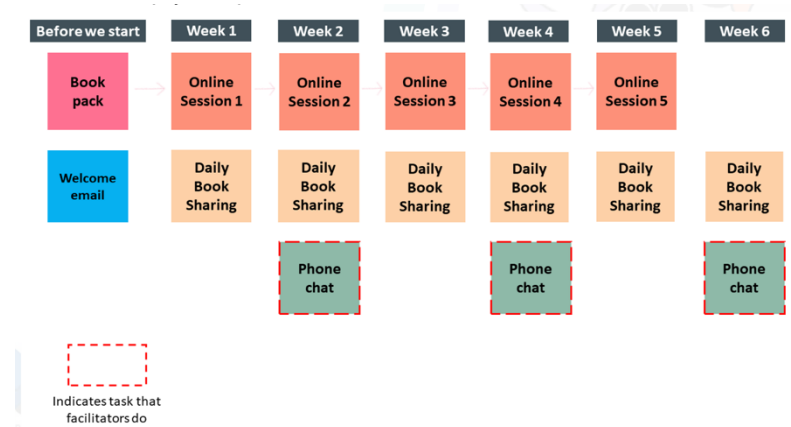
Telephone version utilising learning from cycle 3

Full version using learning from cycles 1 & 2

Automated version utilising learning from cycles 2 & 3

Self-directed version using learning from cycle 3

PROJECT LEARNING SUMMARY AND RCDT REFLECTIONS

Core learning developed using RCDT enabled the PEDAL team to be responsive within a short annual cycle to make effective and evidence informed adaptations to adapt the Playtime with Books programme for virtual delivery. The first key learning related to recruitment of priority families facing the highest level of socioeconomic disadvantage, where the team were able to flex this to be responsive to families available at different research sites and progress with training of facilitators, whilst learning what worked within the intervention design. Across the cycles the team was able to implement different recruitment approaches and create time within programme delivery to strengthen relationships with research sites and their networks to expand recruitment for future roll-out.

A key learning in relation to implementation and engagement with video feedback was the use of facilitator reminders to parents to send across video clips and make space for feedback session as a follow up, to ensure that parents were supported in developing their knowledge and effective implementation of shared reading. This type of checking-in was also found to be supportive of families' completion of the online skills sessions within the expected timeframe, as without this there was a risk of slippage or non-completion.

In relation to facilitators the key learning was the development of a clear understanding of the programme and its potential impact as part of a wider practice toolkit for supporting families and children's early language and social development. Future implementation would need employers of practitioners to scope out time commitments for the programme to enable feasibility of implementation; although developments and changes were made throughout the RCDT cycles to reduce admin burden on practitioners, the PEDAL team still feel there is a need for protected time by practitioners to implement a minimum feedback session criterion for the intervention.

With the intervention being delivered through an online platform the PEDAL team recognised the need for training and support for practitioners, however despite adaptations to training elements to minimise the time commitment and requirements for accreditation there were still challenges for practitioners in relation to navigation of resources, and IT facilities to support sharing of video feedback. A key learning here is around the time required at the recruitment stage for future facilitators to develop understanding of these requirements and pre-empt any challenges to this; there is a need for awareness that virtual delivery of support is not always fully aligned or equipped within early-years practice.

A final key learning focuses on parent engagement with an intervention of this type. The response from parents across

different models of delivery was positive, especially regarding the acceptability for the knowledge and content structure of the online learning and acknowledgement of the benefits of opportunities for feedback from a trained practitioner to support their implementation of shared reading at home. To achieve these benefits, the key learning relates to the flexibility of the delivery models to meet parents needs and the routines they are fitting this programme around. The development of different versions of intervention delivery through RCDT cycles may benefit future recruitment of target families.

The response from the PEDAL team in their use of the RCDT process across this research project has shown the value of working in collaboration to support intervention design and delivery and developing ownership of decision making as progress is made through different cycles. The team welcomed the responsiveness of the RCDT approach as part of a formative evaluation where the focus in on optimising an intervention to maximise its scaleability, compared with traditional summative evaluations where the intervention is typically fixed. Using an RCDT framework allowed the team to respond to needs and challenges and make the changes required in a timely way to support the continuation of the intervention programme.

Though engaging with this type of research process fron assessing, design and implementation, with space to rev there is a deeper understanding within the research tear different approaches to develop effective interventions a

necessary to make a programme work. There is rigor within the process that enables adaptation from emergent learning and tailoring this to meet the needs of service users which is often overlooked. In engaging with an RCDT process the PEDAL team were able to identify and make decisions related to what intervention elements were core components and where there was scope to be flexible to make this work within its delivery context. Moving through multiple cycles enabled the team to identify user pathways and identify where issues were common for facilitators or families which might require adaptation which could be refined. Finally, the team acknowledged that this kind of framework for supporting design, delivery and adaptation of an intervention provided the research project team with …

> *a strong investment into development and testing, to produce more meaningful and responsible design solutions in terms of providing services that are matched to needs. This is more powerful, more sustainable and has longevity.*

This report is complemented by a journey map 'Journey map of a Rapid-Cycle Design and Testing cycle in the Playtime with Books study' and the main study report 'Transforming