

Nal'ibali.  
Behavioural Science for Design.

**GMT** 

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# Chapter 1

## Introduction and executive summary.

Nal'ibali seeks to incorporate behavioral science into the design of its universe of programs and operations. To this end it is partnering with GMT+, an applied behavioural science company, to review its operations and programs and suggest how behavioural science can be applied to improve them and generate long run behavioral change in the realm of literacy. This report summarises the results of that review.

We begin, in chapter 2, by offering a very brief summary of behavioural science and how it can be applied. The purpose of this is to provide Nal'ibali with an entry point into the literature and to give Nal'ibali a sense of what to be on the look out for in its operations and programs going forward. Chapter 3 then presents the results of our diagnosis as we moved through the various stages of the literacy activism journey, from the child through to Nal'ibali's home base. Here we identify two main areas which we think are ripe for systematic behavioural intervention: Fieldworkers and end readers. In Chapter 4 we describe the various interventions which we think should yield meaningful improvements among fieldworkers. We do the same for ultimate readers in chapter 5. Chapter 6 provides a brief conclusion.

In brief, our diagnosis identifies the following areas to address and strategies.

- **Fieldworkers: diminished intrinsic motivation and attention through diminished quality and frequency of contact.**
  - The problem: The Nal'ibali network of what we call (in the report) fieldworkers (FUNda leaders, Story Sparkers, employees in partner organisations, and other volunteers) evolves through an initial phase of more intensive personal contact and raised intrinsic motivation through to a subsequent, and persistent period, where they are in diminished contact. This diminished quality (in terms of degree of personal contact) and quantity of contact is almost certainly generating a sense of increased social distance, or alienation from the literacy mission and lowering intrinsic motivation among fieldworkers. This is, most likely, leading to a decreased agency and persistence among many fieldworkers. This diminished contact is also almost certainly leading to diminishing salience of the task (and training - where a fieldworker has been trained) among fieldworkers. As the salience of their mission and training decrease we can expect that the attention of fieldworkers will be progressively marshalled by very real and often urgent demands of everyday life and drawn away from the tasks of their literacy activism. This may manifest, again, as incomplete follow-through with reading-related responsibilities or lower quality engagement with these tasks when they are doing them.
  - The likely solution. Both motivation and attention can be addressed through regular personal phone calls to fieldworkers. These phone calls can be made by a dedicated staff member and should proceed from personal conversation where the identity of the fieldworker is validated first through to orienting attention to relevant aspects of the literacy mission. Calls should be scheduled to be once weekly and to cluster at the beginning of the week, or a day before the main clustering of tasks.
- **Concrete expressions of literacy goals that allow readers and literacy activists to see their progress and to allow Nal'ibali to leverage the social aspects of reading.**
  - The problem. Adults and children involved in the Nal'ibali programs as readers (adults reading to children or children reading to themselves) do not have a clear expression of the goals they need to

achieve in order to progress in terms of reading and literacy. Furthermore, and as a result, they do not have away to see that they are progressing in terms of literacy and reading outcomes. Moreover they do not have a similarly clear and in-built way to signal this progress to their immediate group and groups like them. This is not a case of a destructive behavioural blockage, but rather a case of an opportunity left un-realised.

- **The solution.** Build in ways for all reading-club level participants to see their progress through all of the small but necessary milestones of reading (whether it be reading to children or reading to oneself). We suggest presenting achievable sub-sets of tasks as sets that participants move through until they complete the set. These should be tracked on appropriately designed cards, or something equally physically present in a reading club. Secondly, build in a way for individual reading clubs to set up internal norms for private personal comparison of progress to keep people progressing within reading clubs in their roles. Similarly, build a way for reading clubs to signal to other reading clubs like them and their communities, their relative progress and so establish a norm. These signals should carry a low effort cost, including a low cognitive cost.

**Notable mentions.** While we focus upon the above two contexts as the two areas where a set of a few interventions are likely to yield the greatest benefit for relatively low cost, we do wish to (and at Nal’ibali’s request) mention briefly other areas where we feel that small efforts should yield meaningful returns. We note two in particular now.

- **Simplifying the way resources are presented on the Nal’ibali website.** Nal’ibali has a wealth of resources upon its website. However the sheer volume of this (such as under the “Read and write with children” section at <https://nalibali.org/story-supplies/how-to-guides>) content is likely to be dampening engagement. It is likely to better serve the intended outcomes if this content is organised, all the way through, in a heirarchical fashion that groups a feasibly small set of content, sharing similar characteristics, together under one heading.
- **More frequent feedback from Research and Innovation in pre-committed one hour discussions.** Nal’ibali’s Research and Innovation team is generating some good work. This work, however, is likely to be of medium to long term benefit. When compared to the urgent and important short run demands which crop up each day, this benefit - because of its time horizon being further out - is likely to be systematically ignored and incompletely integrated into Nal’ibali’s practices. To prevent that occurring and to derive benefit from this work, we suggest that Nal’ibali set up regular - potentially once monthly - research discussions to which the senior management pre-commit and for which there are immediate benefits to participating and appreciable costs to missing. This should allow research work to optimise the operations of Nal’ibali consistently.

## Chapter 2

# Behavioural Science: an overview of what it is and how it can be used to optimise social development programs.

### 2.1 Introduction.

Nal'ibali seeks to develop a behaviourally informed strategy for the next few years. While there is almost certainly scope for improving nearly all aspects of Nal'ibali's operations and programs in light of behavioural science, this report focuses upon only a few ways where major improvements seem possible in terms of delivering specific insights. Knowing that Nal'ibali also wants to incorporate behavioural science into its more general practice, beyond specific recommendations, this chapter has been written. In it we attempt to lay out first a brief summary of the core ideas of behavioural science, as it is applied to development contexts especially and then move to discussing the broad principles for how to design behaviourally optimal operations and programs. Doing this should place Nal'ibali in a position to weave the principles of behavioural design into its broader operations and equip it to interact with behavioural scientists on a more even footing when it engages in more specific projects.

Development organisations (such as Nal'ibali) seek, in simplicity, to relax the constraints upon people's development in some (or many) spheres of life and expand the boundaries of what is possible for human life. This could be in the domains of literacy, or fertility, in agriculture, well-being in old age...and much more. Traditionally the development community has approached these missions with a clear idea of what the constraining physical factors are, such as income, access to resources, access to teachers, and the like. However there is now an increasing consensus that the cognitive and behavioural processes of people themselves frequently constitute a significant barrier to achieving development goals, such as literacy.

This growing consensus is directly related to the growth of behavioural science<sup>1</sup> and behavioural economics in particular. These disciplines seek to integrate a much richer psychological description of a human. In particular these disciplines have called attention to the limits and biases to which our minds are subject. In addition, in more recent years there has now been a remarkable surge in attempts to apply behavioural science to try and solve many real-world problems, especially in the development context.

This initial section will begin by seeking to provide a brief overview of what behavioural science is, including some of its core ideas. We then move to discuss how behavioural science informed strategies are formed.

In simplicity most behavioural scientists now accept that our thinking can be described as proceeding in two different ways, or systems. In the literature these systems are referred to simply as system I and system II. In this report we will prefer to use the terms: "behavioural system" and "brainy system" for system I and II respectively. This is purely because we think that it helps the reader to better maintain the distinction between the two as they read and thus to follow our writing, but we have in mind system I and II exactly. In describing two systems of thinking, we follow Kahneman [2003] and use the terminology for a two-systems view of thinking first proposed by Stanovich and West (see Stanovich and West [2000]) and now widely adopted by applied behavioural science

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<sup>1</sup>A wide range of disciplines contribute to behavioural science from psychology (especially social psychology), neuroscience, and linguistics all the way through to computer science and mathematics.

(see for instance Bank [2015]).<sup>2</sup> To be clear these two systems are merely descriptions of the way in which our thinking (broadly conceived) seems to behave, they are not descriptions of the underlying cognitive machinery (on which the jury is very much still out). Nevertheless the characterisation into system I and II, or the brainy and the behavioural system is a powerful tool with which to understand behaviour. We describe both systems now.

One way to think is to be rational and reflective. This is the manner in which we think to solve complicated math problems, such as dividing the bill after dinner, or perhaps calculating a bond application. We move slowly and methodically through the process, checking each step and making sure that we do not make an error. We consider all of the information available and reach our conclusions by integrating all of it in the relevant manner. Thinking in this manner almost always leads to accurate conclusions. This sort of thinking is very useful. This is the sort of thinking which has taken us to the moon and invented the micro-processor. However this type of thinking is also quite taxing; it takes a relatively large amount of our mental energy. It is also slow - as anyone who has ever had to balance a budget will tell you. This is the type of thinking that the brainy system does.

Another way in which we “think” is to **not** reflect and think slowly, but to rather follow more intuitive and instant heuristics instead, almost always without seeming to “think” in a meaningful way. This is the behavioural system in action. The behavioural system is characterised by impressions which occur automatically and which may often provide a good approximation to the “best” answer, but often do not. In any case, the behavioural system’s processes are not set up in a way which necessarily replicates logical thinking. An example of a deeply automatic impression is our ability to understand a simple sentence in our own language. If we hear such a sentence, there is very little we can do to **not** understand it. The understanding arrived, seemingly independent of any other process. Processes can become automatic through practice (such as learning a language) or potentially be present in our minds through deeper, evolutionary processes. Thinking automatically dramatically simplifies problems and narrows the range of characteristics to which we respond dramatically. Let’s run through another example to illustrate this.

In a moment of uncertainty, we may only think to pay attention to what everyone else is doing. Say, for instance that you are in a workshop and the facilitator asks the group to indicate whether they think the answer to what is almost certainly a trick question is option A or option B. Before thinking through what the correct or incorrect answer may be, our urge is to first look around the table to see how the others are voting. We often do this, first, automatically, without thinking.

This example illustrates three further general characteristics of the mental shortcuts which characterise the behavioural system.

First, it is actually often not a bad strategy to see what everyone else is thinking before you answer, especially if you are unsure of the answer yourself. In many cases a the majority will pick the correct answer. Following the crowd can often be a cognitively light strategy to getting the correct answer. It provides a cognitive free ride. It is almost certainly for reasons such as this that the urge to follow the crowd is so strong among humans. The same is true of nearly all other mental shortcuts that the behavioural system uses. They often help us get close the right answer, or get close enough to the correct answer, to carry on with life successfully.

Second. There is, however, nothing about groups and problems which means that the majority will **necessarily** be correct. In fact most of us can call to mind many instances when the majority of a group was, in fact, wrong, even profoundly wrong. Following the crowd then, can often be a good strategy to adopt for most of life, but it can also lead us astray. The same is true of the other mental shortcuts with characterise the behavioural system. While usually useful they nevertheless will lead us to act sub-optimally, sometimes profoundly so, from time to time.

Third, it happens automatically and we usually have to intervene with conscious choice to not follow the crowd. This is true of most of the mental short cuts that characterise the behavioural system.

Fourth, different people around the table would have experienced the automatic urge to follow the crowd with different intensities. For some the urge would have been overwhelming, while for some it would have been weak. For others still, the automatic urge would have been to look at the crowd and then to act with the minority. The point is that following the crowd is an automatic process which seems to be distributed with varying intensity, in other words it is something which seems to be generally true over the population as a whole, but to different degrees for individuals within the population. The same is also true for most mental shortcuts employed by the behavioural system. They are not uniformly experienced by all humans, but rather are things which are to a greater or lesser degree experienced by most people and seem to be true of the population at large.

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<sup>2</sup>Although not universally. See for instance Gigerenzer [1991], Mega et al. [2015].

Fifth, the context of the question and the group could have made a meaningful difference to everyone's action. For instance, if the rest of the group around the table was a class of three year olds, while you were the only adult, it is unlikely that you would have - even automatically - paid much attention to their answers. Aspects of the context can meaningfully modify even a well-established mental short cut. The same is true of other mental short cuts .

Following Congdon et al. [2011] and Madrian [2014] we can summarise these cognitive limitations and biases as falling into one (or more) of the following three broad categories:

- **Imperfect optimisation.** Imperfect optimisation refers to the fact that while we frequently have a more or less clear qualitative idea about what the optimal outcome for us would be in many domains (for example: a comfortable retirement, using just the right amount of electricity, and so on) we would almost always be overwhelmed by the complexity of the data gathering and computation required to compute the strategy to compute the strategies to reach our optima<sup>3</sup>. Instead of going through with these complex calculations, we employ simplifying heuristics. These simplifying heuristics often focus upon a very narrow framing of the problem, often seeming to focus on just one characteristic of the problem. As a result the action they prompt may not necessarily lead us to sub-optimal behaviour. While these heuristics often do not do too much damage from an evolutionary survival point of view, in modern life they can lead to persistent and significantly sub-optimal outcomes.
- **Bounded self control.** This refers to the fact that we often observe a discrepancy between what we want to do (for example stick to a healthy diet) and what we actually do (eat sugary pastries). This intention-action divide can manifest in procrastination or substituting toward a more immediately rewarding behaviour and away from the desired (even planned) more optimal behaviour. We humans seem to have severely limited will power to enforce even our most rewarding plans. Instead we observe that even small barriers, such as a pension contribution form requiring 5 minutes to fill out, may perpetually keep us from following through on clearly beneficial plans, sometimes with life-changing results. Similarly, variation between emotional states can tip us into destructive behaviour. Listlessness can delay important homework and preparation, while anger can tip us into anything from relationship-jeopardising comments all the way through to violence: sub-optimal outcomes all round. Emotion is, of course, not a uniformly destructive influence though. Slightly deflated spirits can leave a person in a more reflective frame of mind and more likely to pursue a complicated homework problem to its solution, or elevated happiness can lead someone to attempt a college application which they ordinarily would feel disqualified from but which is really within their reach. The point being made is that emotion is not necessarily a bad influence, but that it is a powerful influence, often more than will power and self control. The net result of this is that small obstacles can be, in practice, barriers which are high enough to prevent optimal action on our part, even when we believe - in our brainy system - that that action would be optimal.
- **Inconsistent preferences.** Although we would like to think that our preferences are stable and therefore that we are consistent over time, it appears that our preferences change in response to even seemingly unrelated elements of context. For instance we notice change rather than absolute levels, we respond to how choices are framed and seem to endow our status quo with relatively large value purely because it is the status quo. And, of course, we respond powerfully to what our broader group and society is doing. Social norms beyond ourselves and competition for relative standing can cause us to adopt behaviours we may otherwise have strong preferences against instead of behaviours that we have strong preferences for.

So we have two systems of thinking. The brainy system is deliberately engaged, reflective, and accurate. However it also moves quite slowly and takes up a lot of mental energy. In contrast, the behavioural system is not reflective, is highly automatic and although there are many cases where it will yield a good enough outcome, there are many times when it will not. It is, however, fast and requires very little mental energy. As a result of these distinctive characteristics, the large majority of our life is guided by behavioural system processes. It is simply faster and cognitively cheaper. As a result of the fact that most of our life is handled by the behavioural system, we need to pay particular attention to how it works, especially the nature of the mental shortcuts, or heuristics used and the biases that they introduce into our thinking. We briefly cover some of the major biases and heuristic shortcuts employed by the behavioural system below.

Largely driven by our constrained cognitive resources, we seem to respond to complexity by disengaging. What this means is that more choices and detailed text may not lead to the optimal outcomes that we have in mind when

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<sup>3</sup>Even specialists who are paid to spend their days finding solutions and who have access to significant resource to aid them in this struggle and disagree among themselves about what might be optimal in both of these fields and many others besides.

we offer people more options and more detailed information. Rather we should be careful to curate the way in which we present choices and information, In particular we should be careful to, as far as possible, curate our presentation of these things to allow a person to take in the information and choice-set in a glance. For example this may mean presenting choice sets as hierarchies of small choice sets that people drill down into.

Related to the above: we do not consider all aspects of a problem or a context with equal weight of attention. Rather, we pay overwhelming, sometime exclusive, attention to the most salient aspect of the problem or context. Saliency, in simplicity, is that which enables something to stick out from everything else and draw our attention. For instance a red rose in a bunch of yellow roses is likely to be salient. Elements of a context, or a problem which entail change - while everything else is constant - are often salient. So, for example, if investing in reading for ten minutes now involves me giving up lazing around or playing on my phone then I am less likely to do it than if I have already been reading for twenty minutes and am left undisturbed. What this means is that we should not assume that people will respond to all elements of their context, but we should pay attention to what they will find most salient, since that is what will weigh heaviest on their decision. Social aspects and time are often salient elements of a context or problem.

The behavioural system tends to include a significant social framing for most of our decisions. People have been found to respond strongly to social norms, especially tending to follow norms of groups of people that they are like or aspire to be like. In this regard, personal identity is a strongly modifying factor. Who we want to be (and who we think we are) will almost always interact with how any decision falls within a social context. What this means for behavioural design is that it is not true that we should predict the actions of people based upon a narrow reckoning of the direct merits and costs of the situation. Rather we should appreciate that the social context in which a person makes a decision will materially impact their actions. This means that relationships and their quality become important determinants of motivation and outcomes. It also means that we should consider any social norms that may be referenced by the behavioural system.

Time also plays an important role in determining actions and outcomes. In particular people have consistently been found to value outcomes (either positive or negative) in the present over outcomes in the future and to do so beyond what is rational or accords with consistent preferences. For instance, workers will systematically choose the lowest rate of contribution to a pension fund, or sometimes choose to not save at all (if membership of a pension fund is not the default). While they value a comfortable retirement, they are making the contribution decision (usually) many years before retirement, when they value the loss to present consumption more highly. We also seem to struggle to consider the future, it seems vague and difficult to grasp. What this means is that if we are asking people to make an investment now, or repeat an action consistently over a long time in order to realise future benefits, we need to pay attention to how that choice is presented in terms of present costs, challenges and benefits. The framing in the present is likely to be much more influential than any promise of future outcomes.

## **2.2 Applying Behavioural Science to Design Interventions and Develop Strategy.**

In the following section we provide a brief overview of the essential steps of applying behavioural science to design interventions that work with people as they are, not as we wish them to be.

### **2.2.1 Overview.**

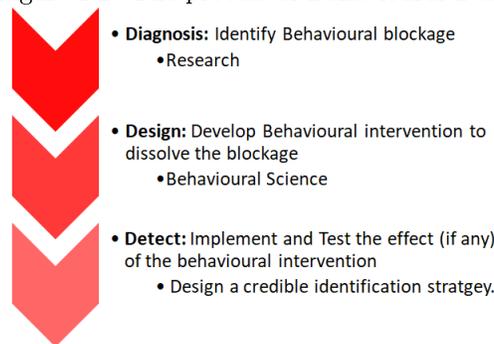
Once the area upon which to focus has been defined, all good behavioural design must move through the following steps: diagnosis, design, and detection.

The diagnosis phase is akin to the process a doctor would go through at the beginning of a consultation. At the beginning of the consultation the doctor will ask you to describe your symptoms and potentially also ask you to describe some part of your life and behaviour. What she is after is an understanding of what your ailment is and what could be causing it. Only once she understands that is she in a position to prescribe a treatment. It is the same in behavioural design. Work needs to be upfront to understand what the problematic behaviours are and what might be causing them. While most of the data gathered may, in the end not prove directly useful, it is difficult to tell upfront where behaviour might be breaking down and why. In this phase a lot of emphasis is thus placed upon being highly exploratory. As wide a possible range is covered, as deeply as possible. It is important to, as much as possible, not let preconceptions guide your diagnosis and to give yourself as much chance as possible to be surprised. It is just as important, in this phase to understand the quality of data that is available to you

and to be clear about sort of conclusions you can draw from it and what you cannot. It is helpful to map this all out, ideally beforehand.<sup>4</sup>In the diagnosis phase it is often the case that seemingly small, contextual features emerge as the most likely cause of the behavioural blockage. A behavioural blockage is unhelpful behaviour which is occurring for no particular exogenous constraint (such as lack of funds), but is primarily driven by the apparently freely chosen behaviour of the people concerned.<sup>5</sup>

Once the diagnosis phase has identified the details of a likely behavioural blockage and why it is likely to be occurring then the behavioural scientist has a target to take aim at in the design phase. In the design phase, the insights of behavioural design are used to craft a treatment to mitigate the behavioural ills uncovered in the diagnosis phase. Again, the best behavioural treatments (or interventions) will often leverage apparently small, contextual features. Behavioural design will seek to co opt the very heuristics and biases which might be leading to sub optimal behaviour in order to solve that behavioral blockage.<sup>6</sup>

Figure 2.1: The process of Behavioural Design.



Once the design phase is complete and a behaviourally informed treatment is ready to be deployed then care must be taken to develop a strategy to assess whether or not the intervention is having a desirable effect (or any effect) and to deploy this detection strategy alongside the behavioural intervention. A good detection strategy should leverage data collection infrastructure already in place and should place minimal additional strain upon the implementing organisation. In particular, the outcome measure should be, as much as possible, something for which data is generated and collected as part of the very act of doing or not doing the targeted behaviour. This enables one to go to scale, while increasing the chance that rigour in measurement will be preserved.<sup>7</sup>By far the most credible strategy to estimate causal impact is through a Randomised Control Trial (RCT), where the treatment is randomly delivered to half (or less) of the population such that it is only the treatment itself which constitutes a difference and as a result any differences in outcomes between the populations which received the treatment and those that did can be attributed to the presence or absence of the treatment.

<sup>4</sup>Bear in mind that behavioural scientists, practitioners, and researchers are subject to the same biases they seek to mitigate! In particular, it is easy to succumb blindly to the confirmation bias, where data presented to you seems to consistently fit the patterns you expect to find. These patterns, of course, may be there, but it is usually worthwhile testing your hypotheses in an adversarial manner and seeing if they hold up to critical review.

<sup>5</sup>For example, undernourishment leading to stunted growth is largely due to exogenous forces such as famine and low levels of economic development - things which the individual has no true control over. However obesity generally occurs under conditions of plenty, where the individual has a wide range of food options available to them - including healthy options - and the means to purchase them. They are not constrained by exogenous forces but seem to become obese and unhealthy as a result of consistent self-defeating, personal choices. Obesity is likely to be amenable to an explanation and solution from behavioural science, whereas stunting - in the context of general famine - is much less amenable to a behavioural solution.

<sup>6</sup>For example, the “Save more tomorrow” plan (Thaler and Benartzi [2004]) works with the fact that people grossly undervalue future consequences relative to the present to work around the fact that many people under invest in their retirement plan because it would take away present disposable income - something which looms large and painfully. In their program, Thaler and Benartzi offer employees the option to decide in the present automatically increase their rate of pension fund savings if they get a raise in a year's time. By pushing the pain of reduced disposable outcome out a year and bringing the focus on the benefit of such action (a better retirement) forward to the present, Thaler and Benartzi have used our time discounting bias to get people to save more (tomorrow) for their retirement. Thaler and Benartzi [2004] observe an increase in saving rates from 3.5% to 13.6% - a dramatic effect.

<sup>7</sup>For example Allcott [2011] partners with an electric utility to access the electricity consumption readings for roughly 600 000 of the utility's customers in order to assess the effectiveness of a home energy report delivered to those customers in a randomised natural field experiment.

# Chapter 3

## Diagnosis.

We worked with Nal'ibali over a four hour workshop and several subsequent in-person interviews with their senior management in order to conduct our diagnosis. Arising from this, we wish to say the following. First, we really enjoyed it! Second, we are certain that there is yet more important complexity and detail to be uncovered. The truncated timeline of this project however, dictated a more circumscribed diagnosis phase. Third, we were able to highlight two broad areas of Nal'ibali's work where we think that applying behavioural science to some core issues should yield strong returns. We also think that, in terms of an impact-for-effort calculus, these areas make the most sense for Nal'ibali to begin with. This said, there is almost certainly scope to apply behavioural science to each and every aspect of Nal'ibali's work which we have not had time to uncover. To allow Nal'ibali to recognise and begin to think through these areas wherever they present themselves, we have written the general chapter above.

We begin in this chapter by offering a brief description of the journey to reading through Nal'ibali's programs. We then move to highlight the two areas which we feel are most ripe for application and offer some argument for why we expect this to be the case.

### 3.1 Journey Map.

#### 3.1.1 The end goal: children reading and adults reading to children.

As the end result of all of its varied efforts, Nal'ibali wants to see children reading for meaning and enjoyment. A step which Nal'ibali is convinced is critical in ensuring this is adults reading to children, especially young children. These two outcomes then are, together, the goals to which Nal'ibali seeks to organise all of its efforts to see realised.

In order to get children to read, or adults to read to children, a few things are necessary. The first is that there needs to be material to read and someone to read that material in a space which allows and does not disrupt reading.

**Material.** This material needs to be in a language that the reader can read and the listener can understand (where the listener is not also the reader). To this end Nal'ibali has been at pains to ensure that all of its material appears in the 11 official languages of South Africa. This material may arrive as supplements in Newspapers<sup>1</sup>, in the books distributed in Hanging Libraries, or might be the books in a local library of the community. Overall Nal'ibali feels that it is doing a good job in terms of generating content, although there is the sense that more can be done to connect children - and the adults who read to them - to their community's local libraries. In order to build flexibility to allow for reading where there are no adults to read to children<sup>2</sup>Nal'ibali records stories which are then broadcast over local radio stations<sup>3</sup>. The bulk of these recorded stories are available on the Nal'ibali website. Again, the sense is that Nal'ibali is doing a good job generating this content. One potential area of concern which was raised was the targeting of content to children and adult readers. Nal'ibali is not confident that content is being matched to appropriate readers enough of the time<sup>4</sup>. This largely seems to be an issue of incomplete information

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<sup>1</sup>These supplements appear fortnightly. Primarily these are placed in Tiso Blackstar publications

<sup>2</sup>Either because they are unable to read themselves, unwilling, or busy with house or other work.

<sup>3</sup>Although not all communities in South Africa will have a radio station which carries Nal'ibali content. Much of Nal'ibali's radio time is given to it by the SABC.

<sup>4</sup>Either through readers receiving inappropriate content, or readers not receiving any content.

about the extent and status of Nal'ibali's broader network<sup>5</sup>. The effort underway by the research and innovation team to track down, describe and incorporate into a central data base individuals and groups who were at one time at least part of the Nal'ibali universe though to those who are currently active and known has already begun to significantly mitigate this problem. The continuation of this effort should, within due course, leave Nal'ibali in a position where it will have the necessary details of participants to improve matching across the board. As a result we do not view this as a significantly behavioural issue. That said, the factors which led to this situation are, we think, almost certainly likely to have been behavioural in nature and potentially resulted in some behavioural blockages; but more on this in chapter 4 below.

**Readers.** The people who read this material could either be the children themselves or it could be adults who read to children. A number of things are necessary, here. First it is necessary that the potential reader be able to read. Second that the reader can read to recover rich meaning (if reading for themselves) or to convey rich meaning, if reading to others. While Nal'ibali does not teach people how to read directly, it does provide training to adults (FUNda leaders and Story Sparkers in particular) about how to read to children. This training is clear and fairly exhaustive and it is likely that the training material itself is doing its job well. It is with the follow up that we think that more could be done and where an opportunity definitely exists.

Not all readers receive training however. To cater to these readers Nal'ibali has made "how to" reading guides available online on its website<sup>6</sup>. These "how to" guides seem to be fairly exhaustive in terms of coverage. However, as currently designed, this exhaustive nature is expressed to the potential reader as an overwhelming list of options to search through. We know that people are bad at processing large amounts of information and navigating many choice options. People generally respond to such circumstances with lower engagement (Iyengar and Lepper [2000]) or total disengagement. This process is likely to be at work here for those who do browse to this part of Nal'ibali's website. Placing this material on the web of course does risk leaving unaddressed the many readers who cannot access the internet or Nal'ibali's website due to the relatively high cost of data, low quality network connection, or lack of internet devices.

Much of the reading which Nal'ibali encourages happens, ideally, in a reading club. We think that this is a great idea, but one which has not been developed to its full potential. Reading clubs are great, in our view, since they implicitly recognise the fact that many of our decisions are framed socially. Gathering together at a regular time with others who expect you to be there also raises the chance that participants will not forget or have to exert much mental effort to put off a busy or other distractions. We think that this implicit logic could be developed further. First, as we examined the reading clubs and how they are to operate, we could not find in-built systems which allowed an adult or a child to see their own progress through a collection of stories. Tracking development and progressing towards mastery is something which it is highly motivating to see as it contributes to an improved sense of self. Similarly there do not, at the moment, seem to be ways for adult readers and children to share their progress with each other. Sharing that progress, on aspects of the program which are deemed especially beneficial - like a good attendance record at reading clubs - would serve to build a positive social norm by sending a clear signal of what the social group was doing. Sharing what the group is doing and allowing the individual to compare themselves to that group privately has been shown to motivate improved behaviour in many domains now, from reducing electricity consumption to improving the rate of tax returns . Since Nal'ibali is trying to change a social norm, we think that developing such a signal within the reading groups would likely prove beneficial.

**Venues.** For children to read to themselves or adults to read to children, there needs to be a safe space that provides the necessary minimum comfort, safety and focus to allow reading. These spaces may be libraries, Early Childhood Development Centres, schools, spaces in the open, and many other options. Given that our focus was to look at overall behavioural patterns, we did not interrogate the choice of venues. For the most part Nal'ibali seems to not have great concern about venues. Although it was not the focus of this report, venues can exert strong effects. One particular aspect to consider the venue is distracting from the main activity it is meant to enable, here, reading. In a now fairly well known study, recounted in Mullainathan and Shafir [2013], two psychologists studied a school in New Haven, New York State in the mid 1970's (Bronzaft and McCarthy [1975], Bronzaft [1981]). This school had a train track on one side, with the result that the class-rooms on that side were regularly disturbed by loud passing trains. In contrast the classrooms on the other side of the school, furthest away from the train tracks were markedly quieter. Children allocated to class rooms on either side of the school were essentially identical upon entry but, by second and fourth grade the students in the noisier class rooms lagged the reading scores of students in the quieter class rooms by three to four months. This difference rose to as much as eleven months in the case

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<sup>5</sup>About which we will have much more to say below.

<sup>6</sup><https://nalibali.org/story-supplies/how-to-guides>

of sixth graders. A few years later the state government installed rubber padding around the tracks and further noise insulation in the school building, dramatically reducing the noise difference between to the two sides of the school. When the psychologists returned, they found that the grade differences had evaporated along with the noise differences. This is a dramatic and direct example of how consistent distraction can significantly hamper the progress of reading, as well as learning in general. Distraction of course may not just come in the form of trains or even noise, but could be persistent discomfort (too cold, too hot), persistent for for safety, too much clutter, and much more. Although we do not focus on venues, we would like to note here that Nal'ibali should attempt to collect information about the nature of venues and level of distraction that readers likely encounter. A strategy to combat this might be revealed as being more necessary than any of us believe at the moment. In this regard, although it was mentioned as a joke during our interim results meeting, we do think that ear-plugs may be an effective intervention! The central concern though it to ensure that, as much as possible, wherever reading occurs, the venue and context should allow reading itself to take centre stage in the mind of those reading and those being read to.

### 3.1.2 Network.

In this section we will discuss the broader network which translates Nal'ibalies design, content , planning and strategy into action on the ground. We split this network into two groups: the employed core and the fieldworkers.

The employed core consist of provincial coordinators, employed regional support staff, and literacy mentors. Among this group we did not come across any particular problems which seemed to suggest a major behavioural blockage. In large part, this group seems to be working fine. Certainly no discussion with Nal'ibali managers, nor the workshop raised any major concerns about this group.<sup>7</sup>So, while improvements are no doubt possible, there does not seem to be cause for major concern. This is not the case however, with the next group: the fieldworkers.

Nal'ibali depends heavily upon a group of what we will call fieldworkers (FUNda leaders, Story Sparkers, employees in partner organisations, and other volunteers) to bring its vision and practice to bear in the field with children, adults who read to children and reading clubs. They provide support to these individuals and institutions or/and are readers to children themselves. It is this field force which is expected to start the fires of passion for stories burning and then fan them into flame so that they spread across South Africa. These are the people who Nal'ibali is targeting - the children and the adults who Nal'ibali hopes will read to them - see. They are crucial to the success of the program. They are also where we think the clearest behavioural blockage exists.

While Nal'ibali does not directly teach people to read it does provide training to adults about a how to read to children to foster enjoyment. The most intensive way this happens are on the Nal'ibali training courses where candidates follow a three or four module approach to learn the Nal'ibali way. Candidates are also given structured group work, as well as stories and activities to take home to their reading clubs. They also get the chance to work through a reading club session (preparation and planning, running the session itself, debrief afterward) They are relatively well supported through this process and the training materials are definitely clear about what they are trying to teach. Equipped with these skills candidates graduate from their training program. During the training and at the end, these graduates are encouraged to participate in the facebook communities as well as other Nal'ibali social media and may be pointed toward the ODK app. Once they have left the training program these graduates (mainly FUNda leaders) however, there is (at present) no systematic plan to re-contact these graduates regularly and frequently. At present they may be contacted irregularly by SMS (mostly) or (less frequently) as part of a research project. However these are precisely the people who are expected to drive reading forward with high levels of intrinsic motivation. There are, of course, a large group of readers who do not go through the training program but who become readers or start reading clubs.

In simplicity the behavioural blockage here is one which earths in infrequent personal contact and could be solved by more frequent personal contact. This group of fieldworkers is, with the exception of Story Sparkers, not paid by Nal'ibali. Their intrinsic motivation needs to stay at a high level to drive consistent, engaged, and engaging behaviour with reading clubs, readers and children. This intrinsic motivation is likely to be high during and just after training or just after signing up as a FUNda leader (in the case of those who do not go through training). These are also periods of relatively high contact with Nal'ibali. We know from the literature that contact does at least two things.

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<sup>7</sup>Of course this is not to say that there are not minor behavioural blockages. It is just that the lack of obvious worry here and the clear blockage with the next group mean that this group was not our particular focus.

First it increases intrinsic motivation. It does this to the degree that the contact is personal. So, phone calls from a real person, where you can hear the other's voice and there is a conversation, have been found to be more motivating than more impersonal contact, such as a text message. We humans frame most of our actions socially in one way or another and seem to find our identity supported or impaired by the nature of these interactions. Frequent personal contact creates a sense of attachment and affirmation which seems to generate higher levels of intrinsic motivation to get the job done. However, since we also know that people perceive changes rather than absolute levels more potently, that a period of high frequency personal contact followed by low frequency, impersonal contact is almost certainly going to be materially demotivating.

Second, frequent, personal contact also marshals limited attention. This is not an insignificant thing! We know from the literature that the busyness of everyday life distracts and diffuses our attention - much like the trains in the example above. Most people find themselves going through their days with their attention split many ways, by pressing concerns (how to balance the budget, how to manage a work relationship, the chatter of social media, what to make for food, the deadline at work, etc.). Experiments have shown that raising the level of this internal noise imposes a cognitive tax on all other activities. Research is also showing that it is the poor who experience this effect the strongest, since they are most often under conditions of scarcity in more domains (time and money, in particular). Under these conditions, one incredibly useful thing that personal contact will do is to marshal a stressed out fieldworker's attention back to a task in which they believe, but which the general course of their daily life is driving them to forget or to do with the minimum of effort.

Taken together then, we think that the current absence of a systematic plan to frequent contact fieldworkers in a personal manner is likely to be driving a host of undesirable (and unnecessary) behaviours within the broader Nal'ibali network and dampening the spread of the fire of literacy. The status quo is likely to be placing many fieldworkers in a situation where after their initial on-boarding their intrinsic motivation is being left untended and opened to the serious head winds of daily life. In this situation it is entirely likely that a sense of agency will begin to decline, noticeably. It is also likely that, under these circumstances, fieldworkers will seem to disengage with the very programs they opted into as daily distractions mount and their literacy activism efforts decline in quality due to a mounting cognitive tax. It is also under these circumstances that it makes sense that connecting via mobile platforms (such as facebook and ODK) may be ineffective, since they are less personal and require the fieldworker, typically, to consistently initiate the outreach. Taken together, we think that an intervention with this group, to increase personal contact is likely to yield very high returns. It is also something which we expect should not prove too arduous or costly to implement. As we will discuss below, the optimal form of personal contact - in this context - is likely to be a short personal phone call made with meaningful frequency.

### **3.1.3 Home base.**

Behind the network and responsible for strategy, planning, design, and getting funding is the head office in Cape Town and the two other regional offices in Gauteng and kwaZulu-Natal, which we will refer to - for convenience - as home base. Again, while there are, doubtlessly, behavioural blockages within home base at various places, none loom so large as connecting with the fieldworkers and then modifying the design of the reading programs to connect more strongly with the social framing of these activities for adult readers and children as well as allowing each of these to see how they are progressing. As a result home base itself will not be the focus of this particular report.

#### **3.1.3.1 Research and evaluation.**

The one potential exception to the comments about home base above is research and evaluation. One reason for this is that Nal'ibali is not content with how research and evaluation was done in its earlier years. In particular the sense is that it needs to be more systematic, cover the universe of operations more extensively as well as more intensively. From discussion with Nal'ibali and reading its reports, it is clear however that that has been changing over at least the last year (and almost certainly longer) as Nal'ibali seeks to build measures of outcomes at all key stages of its programs as well as to integrate its several distinct databases and data sources into one unified database which it is easy to query. It seems then that it is only a matter of time before the coverage and quality that Nal'ibali desires is achieved.

As a result, all we will say about this aspect of research and evaluation is that this is a great trajectory - and Nal'ibali should definitely let it complete. Aside from this trajectory however, there was a sense when we did the workshop that reflection on research and evaluation at home base was not all that it could be. That, taken together

with the fact that research and evaluation were in some way integral to each phase of achieving the Nal'ibali mission means that we would like to say at least a little about it now.

The power of rigorous research is without a doubt greatest when it can inform strategy, policy design, and implementation. In order for research to exert this influence however, it is necessary that all parties involved in managing strategy development, policy design and implementation have ample time to reflect upon the research insights being generated. In this respect research suffers a lot from bearing many similar characteristics to going to gym.

Like gymn it is an activity which most people would agree makes the organism healthier. Like gym, this effect is not evident in the first few sessions or maybe even the first few weeks, rather it is evident over the long run. Again, like gymn, the costs of skipping a few (or many) sessions are not immediately obvious since they are only realised far into the future (and often then in dramatically lowered quality of life). Finally, like gym, each day there are a multitude of genuine and pressing concerns whose importance we feel to the extent that the benefits of attending to them now clearly exceed the costs of skipping out on our session. In simplicity, it seems to us that Nal'ibali may be overwhelmed by each day's urgent challenges, to the extent that it does not take the time, often enough, to reflect on all of the research that it is doing and draw the maximal benefit from that research to strengthen its strategy and operations as a result.

What to do then? Well, first Nal'ibali should not feel bad about this: organisations and individuals fall prey to this type of behaviour regularly. Second, it is worthwhile to acknowledge that it is likely the multitude of urgent matters which serially stand in the way of this benefit being realised and to design a strategy accordingly. Such a strategy would benefit from being a mutually enforceable commitment mechanism as well as being fun. Our initial suggestion for this would be to set an initial schedule of research reflection meetings 6 months in advance. At each meeting, the group then decides on the next meeting 6 months out, so that the horizon keeps moving far away in the future so that present time pressure is not a factor. This group should be kept small enough to feasibly allow discussion; we suggest only senior managers. The meetings should not be burdensome and long (we think you would need a good reason to go beyond an hour). These meetings should then not be presentations but should be interactive reflections - discussions ideally - on some research material provided by the Research and Innovation team, with each member expected to contribute. In this regard, we would strongly suggest something like the following commitment mechanism for attendance. At the meeting, Nal'ibali's videographer should record a short clip of each attendee and their one minute summary of the research. The compilation of these is to be sent out to the broader Nal'ibali network by way of feedback on the research at home base.<sup>8</sup> This introduces a mechanism whereby attendance becomes transparent and thereby de facto enforceable. Finally, the meeting should be as fun as possible. We strongly urge that it be catered for with attractive food. No doubt this suggestion can be tweaked, but we are confident that the broad principles it illustrates are sound and should move Nal'ibali to a place where it is regularly reflecting upon its research and is oriented to implement useful insights throughout its operations with little delay.

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<sup>8</sup>The research and evaluation team should be allowed to bookend this clip with informative explanations of the context.

## Chapter 4

# Fieldworkers.

The underlying logic of Nal'ibali's campaign is to train and motivate people all across South Africa to read to children and to get those children reading for themselves, for pleasure, for meaning and in their mother tongue. In order to do this Nal'ibali uses a mixture of recruitment and training to activate a broad group of literacy activists drawn from Nal'ibali's employees (a minority), employees of partner organisations and outright volunteers. It is this broad group - who will collectively refer to as fieldworkers - who are responsible for implementation upon the ground. This group either reads directly to children, runs a reading club or is in direct contact with those who do. The nature of fieldworkers will differ across the many Nal'ibali programs in terms of training (some receive training, others do not), responsibility, and who they report to (most do not report to Nal'ibali and are not formally related to Nal'ibali), they can also bear several different titles across the several programs (literacy mentors, FUNda leaders, Story Sparkers). However, they all have the following key characteristic in common: the degree to which Nal'ibali's program's succeed on the ground is directly related to the intensity and the consistency of their effort.

If these fieldworkers consistently shirk, reading clubs will fold, if their efforts are half-hearted, then reading will be boring. If they are misinformed, then Nal'ibali's practice will be lost in translation on the ground. If they are passionate, those they work with are more likely to be passionate, reading is more likely to be fun. If they are consistent, then they will build an enduring work in the lives of the children in their area of responsibility. These are the people who, more than anyone else, will keep the fire which Nal'ibali starts from going out, and who, more than anyone else, can cause it to spread.

However, as we have worked with Nal'ibali to understand their own programs and the journey to literacy, one of the clearest pictures to have emerged is that these fieldworkers are relatively unsupported. We will unpack what this means. This seems to present perhaps the clearest opportunity for a place where relatively small action would lead to the highest returns for Nal'ibali and where a consistent strategy can be developed that will see those returns persist. We now move to explain the reasons why behavioural science would identify the current way in which fieldworkers are dealt with may lead to sub-optimal behaviour and what behavioural science has to say about a possible remedy.

Nal'ibali relies on its fieldworkers having high levels of intrinsic motivation to execute their jobs on the ground. However it occurs that these fieldworkers are very seldom contacted. When they are contacted it may be after a long delay (as in the case of those who go through training) and it may be relatively impersonal (an SMS relating to an event). In simplicity this may cause fieldworkers to experience impairment along two important margins: relationship and attention.

### 4.1 Blockage 1: Relational distance.

First, fieldworkers may sense an increasing personal distance to Nal'ibali. After the relative closeness of recruitment (and perhaps an extended period of training - roughly 4-6 months) they now receive very little contact. Humans notice changes much more than they notice relative levels. So while an SMS might be more contact than they would otherwise have received from Nal'ibali before recruitment into the Nal'ibali network, that is not where they are likely to focus. More likely, they are likely to focus upon the fact that they were in close contact and now that has declined to a more distant relationship. In other words, the relationship with Nal'ibali, for most, is likely to be conceived of as having deteriorated. Apart from the cases of truly motivated fieldworkers for whom the values of

literacy are deeply internalised, this is likely to be bad news. Increased social distance and a relationship of reduced quality is likely to drag down motivation to the mission.

## 4.2 Blockage 2. Decreased Attention and task salience.

One other thing which decreased frequency of contact will do, mechanically, is reduce the salience of the fieldworker's task, leading to less attention being paid to these tasks by fieldworkers. The aforementioned personal distance to Nal'ibali is likely to mean that fieldworkers suffer from decreased task salience; their training and subsequent task does not remain at the forefront of their minds. In fact, it is likely that, as time from last contact increases, salience decreases. Many fieldworkers appear to live in circumstances where they are themselves subject to resource constraints across all domains of their life. In simplicity, this means that there is a lot of mental noise generated by many urgent and important things clamouring for a fieldworkers attention in a normal day. To the degree that this is a fair characterisation of a fieldworker's day (and it seems to be for most fieldworkers), then reduced attention brought about by reduced contact is likely to be significantly exacerbated. The costs of this dissipation in attention to a task can be truly significant.

Mullainathan and Shafir [2013] describe this phenomenon, noting that attention is a scarce resource. Everyday responsibilities draw down most of this resource, to the point where attention tends to be allocated almost exclusively to present concerns. Furthermore, Banerjee and Mullainathan [2008] show how attention scarcity disproportionately impacts generally resource constrained individuals, such as many of Nal'ibali's fieldworkers<sup>1</sup>. Agarwal et al. [2006] estimate that knowledge "depreciates" at roughly 15% per month absent any reminders. Taken together, the literature strongly suggests that an important effect of infrequent salient contact - such as a personal contact - will result in the attention of fieldworkers being drawn from the task. As a result, fieldworkers may become progressively less alive to possibilities to augment Nal'ibali programs (such as connecting reading clubs to local resources such as libraries), to early interventions with readers to either address slow reading progress or to encourage precociousness (such as suggesting to a child's care givers helpful support at home) and to possibilities to enhance literacy generally. In other words, lack of personal contact is likely to generate sub-optimal behaviour within any domain that depends meaningfully upon a fieldworker taking action.

## 4.3 Likely Remedy.

Fortunately, we expect that the single most effective thing which Nal'ibali can do in order to remedy this situation is to establish more frequent personal contact with the fieldworkers. Doing so is likely to both raise intrinsic motivation and better focus attention upon literacy tasks. We now move to describe how this should be done.

Contact should be made in a personal way. Practically, this should be through a medium that allows the fieldworker to hear the voice of the person contacting them and have a live conversation. Email and SMS are likely to be too impersonal. Byron [2008] investigates how emails are received in professional environments, finding that, across the board, emails are inefficient in conveying emotion - they were consistently received as more negatively emotional than intended by the sender. Personal phone calls seem to improve adherence to medical treatment regimes over less personal media (Hasvold and Wootton [2011], Bigna et al. [2014]). Schoar [2012] and Drexler and Schoar [2014] find that personalised phone call contact with the same loan manager leads to a significantly lower probability of loan default than routine, more anonymous and less personalised phone contact regarding loans.

Phone calls are likely to be the most feasible way to do this at scale while still providing rich, personalised interaction. Of course, face to face meetings are much richer still but face obvious restrictions for going to scale. Nevertheless, where there is a sufficiently small group of fieldworkers who can be visited, then we would encourage Nal'ibali to try and visit them. Calls could be done by trained callers at the Nal'ibali call centre as well as by Literacy mentors. While we acknowledge that there might be capacity constraints on this dimension, our sense is that a monthly call is probably the lowest frequency for credible personal contact. In order to test this, we suggest that Nal'ibali engage in internal RCT's to (rapidly) assess the returns to varying call frequency. The general form

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<sup>1</sup>This is not only a developing world story. The same process is almost certainly affecting many teachers in the USA, many of whom face low pay and report that their in class and extra-curricular efforts are severely curtailed by the fact that they need to hold down an additional job (sometimes several) <https://www.theguardian.com/us-news/2018/sep/05/american-teachers-second-jobs-how-i-survive>

of such an RCT would be to randomly allocate a sufficiently large group of fieldworkers<sup>2</sup> to one call frequency and allocate another group randomly to another call frequency. Outcomes can then be compared across these groups to determine returns from call frequency.

Schoar [2012] suggests that those calling the fieldworkers should be recruited on their ability to communicate in the language of the fieldworkers being called, to problem solve on a call and to convey a sense of warmth and trust in their voice. There are no objective measurements of this that we are aware of for warmth and trust. We suggest testing potential candidates on these characteristics among a small pool of fieldworkers who can then feedback about the call in terms of warmth and trust. Language proficiency and problem solving can be assessed by Nal'ibali in standard interviews incorporating the type of problems likely to be raised by a fieldworker on a call.

We advise that the call should proceed, broadly the the following steps. The call should begin with an introduction and then proceed to asking about an aspect of the fieldworker's day. Thereafter the caller can lead into asking about how the fieldworker is experiencing their literacy activities (in a non-threatening way). From this interaction it is likely that some aspect of Nal'ibali's way of reading will be highlighted as something about which the fieldworker has questions or is struggling with - the caller should attempt to respond, on the call, to these questions and struggles. Finally the call can move to a conclusion with the caller to reminding the fieldworker of a particular aspect of their training (or the Nal'ibali way of reading, if they did not attend training), or a reminder of an upcoming event - if there is one imminent. To assist callers, a script should be developed that outlines these broad steps but is not so detailed as to constrain the caller to responding in an impersonal way! In order to facilitate handovers to different callers over time, Nal'ibali should look to built a composite picture of each fieldworker over many calls, via an electronic "call journal" of fieldworker details.

While we have been focused upon personal contact through phone calls in this section, and while we think that they are necessary in Nal'ibali's context, we also think that these personal phone calls can be augmented by text messages (but not replaced). Karlan et al. [2015] and Kraft and Rogers [2015] both find that personalised text messages elicit more effort compared to impersonal text messages, especially when augmenting initial personal phone calls (as in Kraft and Rogers [2015]) . As a result we suggest that Nal'ibali attempt to augment phone calls with text messages that are personalised to the fieldworker. It may be that this strategy will also reduce the required frequency of calls required. Again, we suggest experimentation to inform any calibration in this regard.

Nal'ibali's programs have elicited what seem to be truly promising set of outcomes in terms of literacy. As a result, the organisation's programs have expanded rapidly. Partly related to this, no doubt has been a declining frequency of contact with fieldworkers. This has left many fieldworkers, almost certainly, in a position of declining motivation and deteriorating levels of attention to the sort of literacy interventions that Nal'ibali seeks to promote. Given the centrality of fieldworkers to executing Nal'ibali's mission, we think that interventions with fieldworkers that see them receiving more frequent and personalised contact is almost certainly the single most effective strategy open to Nal'ibali to further increase its effectiveness and lock in the gains already achieved.

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<sup>2</sup>Sufficiently large to detect affect size. We sense that Nal'ibali possesses the skills internally to do the necessary power calculations to determine the required sample size to detect an effect of meaningful size with reasonable accuracy. However, if Nal'ibali requires assistance on these sorts of calculations, GMT+ is happy to provide it.

## Chapter 5

# Children reading and reading to children.

Nal'ibali's efforts to foster childhood literacy can be characterised as getting people to read in groups. This could be adults reading to children (a particular focus) or children reading to themselves (arguably the ultimate goal) as part of a group in some way. Moreover the goal is that this reading should not be mechanical in nature but rather reading should be done for meaning and for enjoyment. This reading can happen in homes, in schools, early childhood development centers, libraries, all over in fact. Whatever the location it is the format of reading clubs which are promoted. There is particular attention paid to getting adults read to children, especially in reading clubs. There is also considerable effort expended to make sure that these reading clubs are equipped with the necessary resources to allow reading to happen and for the journey of reading to continue.

The Reading clubs strategy has a number of positives. One advantage is that providing a group as the context for reading begins to leverage the fact that many of our decisions and actions have a social element, Another advantage is that if a reading club is active and meets at a regular time and place, it is conducive to participants developing a habit and a norm of going to the reading club.

However, reading clubs and the reading effort "at the coal" face have the potential to multiply their effect even further, we think, by integrating some behavioural design principles. In this chapter we will describe how building of social norms as well as making obvious an individual's progress by feeding it back to them might well lead to greater effect.

### 5.1 Show people their progress and construct action sets to complete.

The first way in which the reading experience could be augmented in terms of crowding in more reading is twofold: to set helpful goals and for participants to see their progress toward those goals. At present, while the expectation is there that children and adults will consistently read (to themselves and to children respectively) and while much effort is being put into ensuring that sufficient material to read is available there is no element in the campaign which systematically allows these actors to see their own progress along their reading growth. Second, as far as we could tell within the reading club and related programs there were no concrete goals - related to the overall goal. The absence of these two elements is a pity.

Showing people their own progress towards an achievable goal, has been found to increase the rate at which people achieve those goals. Beginning with Clark Hull (Hull [1938])<sup>1</sup> but replicated in more recent studies (see Kivetz et al. [2006], Cheema and Bagchi [2011]), the goal gradient hypothesis describes how people exhibit progressively increasing effort to attain a goal the closer they can see they are to it. In this process it is important that people are able to clearly see<sup>2</sup> their degree of completeness and that the goal not be too far off (Cheema and Bagchi [2011]). Barasz et al. [2017] demonstrate how presenting a number of activities - such as a collection of book titles to read - as a set leads to significantly higher levels of completion and overall activity than if the options are just presented separately. Over five experiments they demonstrate that this framing leverages our general innate motivation to act until we have eliminated incompleteness and the set is complete. Importantly individuals are able to see their progress towards completing the set, what they have done so far and what remains. It is important to note that

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<sup>1</sup>Hull was extending earlier work in which he found animals - albino rats in a maze - displaying this type of behaviour Hull [1932]

<sup>2</sup>All of the research we are aware of in this area uses visual representations of completeness; but presumably being clearly able to judge degree of completeness through any sense is sufficient.

these sets can be made of disparate goods or activities that otherwise might not be judged as sets. So, for instance: gathering children at a reading club, checking in on a Facebook group, actually reading to children, and so on - whatever is deemed important to achieving the desired literacy outcome, could be presented as a set.

Crediting people with an initial amount of progress towards completing a set has been shown to increase effort. Nunes and Dreze [2006] conduct a randomised trial of loyalty card design among customers of a car wash. A random 150 customers were given a loyalty card that required ten stamps (one stamp per visit to the car wash) overall to earn a free car wash, however this group was credited with two stamps when issued with their card (as a result of their first visit), meaning that they needed ten further visits to claim a free car wash. A further randomly selected 150 customers were issued a loyalty card requiring eight visits to earn a free car wash. A greater portion (34%) of the group who received their loyalty card with two stamps already affixed completed the task and earned their free car wash than for the group who just received their loyalty card (19% of this group completed).

Nal'ibali is asking participants to engage in an activity which yields benefits as a function of its cumulative nature: reading stories to children to build love of story and meaning, leading to children initially reading simple stories for themselves and progressively more complex stories as time passes. Moreover, Nal'ibali has a clear idea of the process which the best chance of leading to these outcomes. As a result, there exists opportunities among adult and child participants to organise processes (how to read and host a reading club) and progress (reading through a set of books) and present these as visually clear sets to progress through. Let us explain in a little more detail the sort of thing we envision as being useful.

Figure 5.1: Pseudo-set of activities: an example. Presenting potential donors to the Red Cross with goods framed as a set (survival kit) and displaying their progress to completion significantly increased donations. Source: Barasz et al. [2017]

**Deliver a Red Cross Survival Kit that helps others this holiday season**

Simply select the gifts you'd like to send. Choose all six to deliver the most impact with a complete Red Cross Holiday Survival Kit.

INTERNATIONAL

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>\$15</b>	<b>\$60</b>	<b>\$25</b>
BLANKETS: WARMTH FOR REFUGEES	FOOD AND WATER RELIEF	MOTHER-CHILD HEALTH PARCEL

IN CANADA

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>\$20</b>	<b>\$35</b>	<b>\$45</b>
TWO-DAY GROCERY SUPPLY	INFANT CARE PACKAGE	HOT MEALS

SELECT ALL >    CHOOSE YOUR OWN AMOUNT    \$

These gifts go a long way! Vulnerable Canadians rely on hot meal deliveries every day. **Keep going with another gift in your Survival Kit?**

Global Survival Kit  
**30%**  
Full

Your Donation **\$60**  
RESET

**COMPLETE DONATION >**

For children who can read, as well as for children who are being read to, there is a natural set of books they should progress through. For instance, Nal'ibali sends through hanging libraries with grade specific books and in libraries there are often different sections within the children's section (young readers, teens, etc.). These can be presented as sets through which to progress. We would suggest organising the total number of books into several achievable subsets, so perhaps the number of books that one could reasonably read within a month in the contexts in which Nal'ibali works.

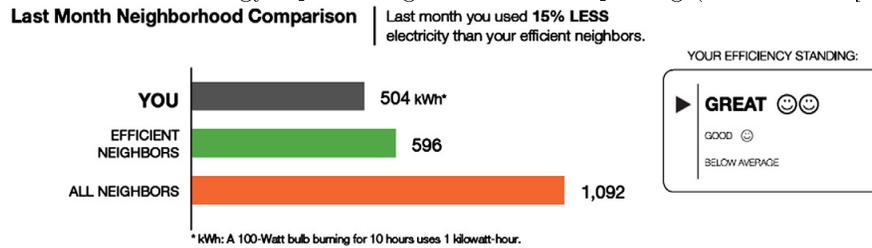
One potential strategy might then proceed as follows. Each child is given a set of cards, which are kept at the reading club. The cards display the sets of books they are to read. The child receives an initial credit, or stamp on the card for attending and, as a result, the task is framed as begun with some progress already made. As the child progresses within each subset by reading the relevant material, their progress is marked off on their card by the adult in charge of the club. The adult can make use of this system to ask the child a number of the relevant reading-for-meaning questions which Nal'ibali trains its FUNda leaders to ask, to both ensure that the child has read the book and that the child is progressing in developing the ability to read for meaning. The child should be able to see their card whenever they want (but not mark off their progress without the adult!). Each subset that is completed leads to achieving a longer run - annual - reading goal, for instance: reading all of the books in the hanging library for your grade (or whatever Nal'ibali deems the relevant literacy goal to be). Since being able to clearly see, or detect, one's progress to completion as well as what remains of the set is key, we would strongly suggest that this progress be framed as something like slices of a pie-chart, with a slice being added to the pie each time a child completes a sub-set. This allows goals of several different sorts to be addressed, if Nal'ibali feels that is necessary. So, for instance, while most of the sub-sets would be related to reading books, several can be related to other relevant goals such as: visiting the library (where the within-sub-set goals could be something like: take out four books, learn the reference system, speak to the librarian, take a friend to the library), reading clubs (with goals such as: join a reading club - an opportunity to mark initial progress as in Nunes and Dreze [2006] - read to your reading club, bring your friend to your reading club, bring your parent/grandparent/care-giver to the reading club), and the like. In terms of rewards for reaching these milestones, rewards can be helpful, however, here care must be exercised in terms of not crowding out intrinsic motivation. Often it is best to make the reward intrinsic in nature. An example of this would be personal recognition of one's own achievement (which the research cited above suggests occurs in these strategies) and social recognition (more on this below). Making explicit these long run goals, which are implicitly there in Nal'ibali's several programs, will help children better progress along the literacy development path.

For adult participants, the same logic can be applied to crowd in their efforts. Here the goals seem to be much more process related and so the goal set should be too. For instance there seems to be a set of logistic responsibilities (opening a reading club, setting out chairs, cushions and the like) as well as reading responsibilities (read to children, read in this way, ask these sorts of questions). These could be organised into a set and represented as something like a pie-chart, where the adult readers, organisers, and FUNda leaders progress through to completion.

## 5.2 Make it social.

Being able to see one's progress is, in itself, helpful in generating further rounds of effort. However it also opens up the possibility for integrating the social frame of reading. Social frames are another class of intervention which have been widely tested and found to generate progress. Creating private references to social norms have been found to be effective in reducing home energy consumption (Schultz et al. [2007], Allcott [2011], Costa and Kahn [2013], Allcott and Kessler [2015]), home water consumption (Ferraro and Price [2013]) to reducing over-prescription of antibiotics (Hallsworth et al. [2016]) to improving tax reporting and payment rates (Wenzel [2005], Hallsworth et al. [2017]), improving hand washing (Lapinski et al. [2013]) and even to reducing hotel towel washing (Schultz et al. [2008], Goldstein et al. [2008]). So, how do social norms reporting programs work? In simplicity these programs will communicate a social norm to the individual in some fashion and allow the individual to compare their own behaviour relative to the norm, usually privately. An example of a typical norms reporting strategy is shown below.

Figure 5.2: OPower energy report using social norms reporting (from Allcott [2011]).



Reporting a norm will help dispel what is known as pluralistic ignorance. Pluralistic ignorance is where everyone (or most) in the group do not know the normal behaviour for everyone else in the group. So, for instance, children or adults involved in a reading club may not know how many people in their village, or suburb (or town, or country) are involved with reading. Reporting a norm is particularly effective where, under conditions of pluralistic ignorance, participants (or potential participants) believe that the normal level of behaviour is at a more undesirable level than it, in truth, is. Again, an example might be that children and adults involved (or with the potential to become involved) in a reading club believe that the level of involvement in reading is lower than what it, in truth, is. Since humans have an innate motivation to anchor their behaviour on the norm, reporting that the true level of the norm could lead them to behave in a more socially (and individually) beneficial manner, where that norm is in fact at a more desirable level than believed.

It is likely that Nal’ibali’s reading clubs, FUNda leaders, and the children and adults who Nal’ibali ultimately targets are located in conditions where the perceived norms around engagement with reading might be lower than what is in fact normal. Certainly, as Reading Clubs operate they will, almost certainly be mechanically shifting that norm in the correct direction. This makes for a great opportunity to leverage a social norm reporting strategy. How might this be done? If the reading progress is recorded and reported as described in the section then most of the ingredients of this approach will already be there. There are three levels at which these ingredients can potentially be converted into a social norm: within the reading club, between similar reading clubs, general broadcast.

Within the reading clubs, much of the social norm messaging work will be done by virtue of the club operating as designed and by the recommendations of section 5.1 being followed. Children seeing other children engaged in reading or gathering to read is authentically powerful feedback. Any progress monitoring can also be aggregated and displayed in the reading club venue - for instance the organiser can paste up a measure of the total number of books read so far by the group, total number of days the reading club has met. In order to impact the community these measure should be displayed in a manner that the community can see. One potential strategy in this regard might be to leverage increasing intrinsic motivation among fieldworkers (described in chapter 4 above) to encourage adults to report on their activities to others in their social networks, both their physical social networks (churches, soccer clubs, stokvels, and the like) and their online social networks on social media. It is probably more sustainable to keep these incentives non-monetary. However, for comments posted on online social networks it is usually possible to pay to promote content that is linked to Nal’ibali’s social media pages. Nal’ibali can promote user reports of their reading club performance and reading progress and to generate a helpful social norm. Similarly, Nal’ibali can promote its own comments communicating these norms targeted users (especially FUNda leaders and social media friends of FUNda leaders in the same area<sup>3</sup>). At present there seems to be no systematic effort to reach beyond the FUNda leaders currently actively interacting with Nal’ibali’s social media with social norms messaging.

Efforts can also be made to communicate a social norm among reading clubs of a similar sort. Reading clubs may be similar in term of geography (they are in the same area) or general economic circumstances, or even ages of children served. Nal’ibali’s network of FUNda leaders can be polled by the call centre (and Literacy Mentors, where possible) on number of key outputs (such as participants, hours read) and encouraged by the call centre to send updates. This information can then be shared back to the broader network. Two potentially pre-existing channels for this feedback might be the annual distribution of hanging libraries (for those clubs which got hanging libraries) and the various distribution regions for the Tiso Blackstar supplements, where each region could potentially receive a social norm report for reading clubs in that region. Finally, as more detailed information is built up on each reading club, the SMS platform can be used to target social norms messages to groups of reading clubs that share important characteristics.

<sup>3</sup>Targeting in this manner and on other characteristics is possible on on paid social media campaigns

Finally, there is scope for social norms messaging to be included in Nal'ibali advertising which is targeted more broadly within a region (or nationally). In particular, as Nal'ibali has a focus upon certain provinces (KZN, Gauteng, Eastern Cape, and Limpopo), these provinces are a natural fit to include feedback about changing literacy norms within those areas. For instance, a Nal'ibali radio story on local radio might begin with the announcement that there are an estimated 'x' number of reading clubs with 'y' children and 'z' adults joining in, or similarly, that there are now 'x'% more reading clubs in the province than there were 2 years ago. Including this sort of messaging should create the sense among the target audience that norms are shifting. The same logic could be applied to other channels (newspaper, outdoor). In order for these messages to be tailored in a fashion that will resonate with the audience that is reached, it is important that Nal'ibali become more certain about the characteristics of the audiences it is reaching in its various broadcasts. Understanding that it is working adults, or people in traffic, or old-age people, or children who listen to a particular broadcast slot should change the type of social norm message broadcast. For instance, when it is adults listening, it is clearly more profitable to communicate the upward trend in the number of parents reading to their children than it would be to talk about children reading on their own.

The work of Nal'ibali to increase engagement with reading across South Africa has been remarkable. These programs can be profitably augmented to sustain further behaviour change, we think, by systematically incorporating processes which allow participants (adults and children) to see their own progress towards the relevant literacy goals. These processes in turn can be augmented still further by incorporating social norms feedback.

## Chapter 6

# Conclusion

Nal'ibali has achieved a remarkable growth and has expanded rapidly to become a major influence upon child literacy in South Africa. As Nal'ibali seeks to grow this influence into the future two areas of its operations appear ripe for intervention informed by behavioural science.

Fieldworkers, who are the engine of Nal'ibali's programs being applied on the ground are currently not in frequent contact with Nal'ibali. In many cases this is likely leading to decreased levels of motivation and attention being dissipated away from their literacy mission. By reaching out to these fieldworkers in a personal way, more frequently, Nal'ibali will most likely raise levels of intrinsic motivation and marshal the fieldworkers attention towards their literacy mission.

Readers can be further served by deploying resources which allow them to track their own progress through achievable sub-sets of activities. This fundamental insight applies to adults who read to children as well as children reading to themselves. At present there is no obviously concrete expression within reading clubs (or other contexts in which Nal'ibali is active) of what goals people are meant to achieve. Providing clear goals as well as a means to see your own progress towards those goals can be motivating. The strategies which allow readers to see their own progress can also be leveraged at the group level to broadcast to the group and wider community that the norms with respect to reading are changing (positively). Incorporating these social norms should lock in existing literacy gains and promote further gains.

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