User Research with Kids

How to Effectively Conduct
Research with Participants
Aged 3–16

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Thomas Visby Snitker
Nordhavn, Denmark

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About the Author

Thomas Visby Snitker is Senior User Research Manager at LEGO (The LEGO Agency) and former CEO, owner, and founder of a research company under his own name (2005). Thomas is passionate about user centricity, research, user experience (UX), and usability. He enjoys writing and has contributed two chapters, "User Research Throughout the World" and "The Impact of Culture on User Research," in the *Handbook of Global User Research* (Morgan Kaufman, 2009). He's also published a book titled *Breaking Through to the Other Side: Using User Experience in Web, Interactive TV and Mobile Services.*

Thomas is a frequent speaker at Danish and international conferences, such as the UX Masterclass, and occasionally blogs for the Danish edition of *Computerworld*. In addition, he serves as an external reviewer at the IT University of Copenhagen, the Copenhagen Business School, the Technical University of Denmark, and the Information Science School of Copenhagen.

Before he founded SnitkerGroup, Thomas worked as a usability specialist in IT (in KMD), in a media agency (Mediacom/Beyond Interactive), and a web agency (Signal Digital/GreyDigital).

He is the father of Sigge, Anders, and Peter and lives in Denmark with his wife Katie and their cats. He enjoys the cultural activities that you'd expect from a self-described mainstream cis male born in a previous century – from photography and music to cooking, Wordfeuding, and biking.

Here he is, circa 1972, 2011, and 2017. He will love to hear from you at thomas@snitker.com.

Acknowledgments

Understanding Kids and Their Experiences

An introduction to research with kids

As a designer, producer, marketeer, or researcher with children as the audience, you must be cognizant that kids behave differently than adults in order to be successful. You need to include the kids in the process through all of the stages, from the early ideation phases all the way to conceptualization, design, prototyping, and eventually the launch.

This book aims to inspire practitioners who are working in this development and design process, and can be sometimes overwhelmed with the challenges it poses.

During my years as a research manager in LEGO's internal agency, I have introduced many new colleagues and interns to the ways in which we can involve kids in our research, and every time I have searched for a good book on the subject. Unable to find one, I decided to write this book. I hope you will find it beneficial.

Adults who research kids' experiences venture into a familiar yet foreign land where the inhabitants speak a different (yet familiar) language; have different norms, values, and goals; and behave and interact differently. The adults will struggle to settle in that land and will likely not be accepted as peers by the kids.

Two important aspects set children and adult researchers apart:

- As an adult, you wield the entire arsenal of adult competence – you understand and control your world, you are sovereign and autonomous, you can think and do and say whatever you want, and you are responsible for your choices and actions. Kids are not.

- When it comes to research, you can be a researcher and a respondent and also a sponsor or stakeholder of research. You adapt your behavior to each of these positions. Kids in most instances cannot and care not.

So research with kids, such as interviewing a child or observing a child interacting with a product or service, is very different from research with adults, and any research must be conceived and executed with the child and the child's world in mind in order to be successful. The researcher needs to understand both worlds and build a bridge between them. This book is about that bridge and how to build it.

Design, innovation, and the need for research – and KX, Kids' Experience

The person's interpretation of experience is simultaneously the most significant product of an encounter and the spur to the next.

—Jerome Kagan, *The Nature of the Child* (Basic Books 1984)

We can understand what causes a person to say, feel, and act the way they do only to the extent that we can access the content of that person's experience. One reliable and scalable way to access kids' experiences is through research, and by studying how they interact with things, how they communicate and behave. This book primarily focuses on kids' experiences with *designed* objects and services. Design is how we invent and reinvent our world; design is how we produce and reproduce the tools, the content, and the services that help us achieve things, but also overcome our inconveniences, fears, and inadequacies, our restlessness and boredom, our curiosity and inquisitiveness.

This definition means that design is not an activity only done by designers (i.e., people with a design degree or the word design in their job title) or only done in an explicit design context, but design is a commonplace activity that most people do at multiple times in their daily work lives and in their private lives alike – they come up with new ways of going about their business and their existence. And increasingly so; as societies develop and new practices and technologies emerge, so does the need to design these, often in an almost Darwinian way; new ideas that actually "survive" the first few months whether on the marketplace or in our culture are surprisingly few. So we probably design much more than we are actually aware of.

A given new idea may have outlived its commercial or practical use, or it may be impossible to implement in society at large or in an organization due to its complexity or external dependencies. In the context of commercial innovation, it is highly valuable to be able to quickly nurture good ideas and turn them into products/services on the marketplace, and thus innovation adds to the competitiveness of the company in many ways. That is, whether the company can find out which ideas of the many ideas generated in the company are actually feasible and whether it can manage the process of quickly discarding bad ideas while keeping the good ones. The potential gain – and this is where research plays a crucial role – is to avoid wasting precious time, personnel, and materials on designing, producing, marketing, and supporting a failed or substandard product or service, for example, one that simply does not meet the needs of the audience. "Getting the right ideas right"[1] – and doing this quicker – means that the company can bring more meaningful and pleasurable products and services to the market faster than the competition.

Since most, if not all, of the design for kids is done by adults, the designing adults need to understand how a kid can use and experience a tool or service. Luckily, we live in a time where UX, User Experience, has grown in influence as an approach that has the intended audience much closer to heart and mind than earlier design and development paradigms. Also, the related approach of CX, Customer Experience, has grown, as it supplements UX with the shopping dimension that is so crucial to all commerce.

However, neither the aspect of being a user nor a customer will teach you much about the kids' experience, so I propose a new term, the KX or Kids' Experience. When accomplishing a task, the *user* or the *customer* has a desired outcome in mind: trying (hard) to reduce errors and waste of resources. This is sometimes called extrinsic motivation.

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[1] *The Creative Curve: How to Develop the Right Idea, at the Right Time* by Allen Gannett (Currency 2018): www.thecreativecurve.com/ is a good source of inspiration; it documents how creativity can be understood as the result of hard work and a rigorous process (as opposed to inspiration and talent).

But kids are often simply playing, or "goofing around." Their motivation is often intrinsic: it is driven by an interest or enjoyment in the task itself, and the aim is to attain one's own internal rewards. It has little focus on external pressures and little or no desire for consideration. Play helps the child in many ways and is not a waste of time; it develops all kinds of social, cognitive, and physical competencies. The KX is very similar to the UX and the CX in that it is concerned with a *human* experience, but it is special in several ways and requires special attention:

- Kids have different needs than adults.

- Kids have different goals and success criteria than adults.

- Kids have other capabilities than adults.

- Kids follow different user journeys than adults.

- Kids express themselves differently from adults.

Play is a *job to be done*

Another noteworthy innovation and design approach, jobs to be done, may be of inspiration.

The concept of "jobs to be done" was made popular by business leaders Clayton Christensen and Michael Raynor in *The Innovator's Solution* (Harvard Business Review Press 2013), and Jim Kalbach expanded upon it in *The Jobs To Be Done Playbook* (Rosenfeld Media 2020).

It follows a simple principle: people "hire" products and services to get a job done. For instance, you might hire a new bike to make your commute faster or get exercise. Or, you hire an ice cream to reward yourself after hard work.

Play *is* a job to be done in order to develop and grow up, but play is also very different from any job in the sense that play and playing is a goal in itself. An adult may accept to work a job in order to get paid and there's a long list of good reasons why, from self-actualization to supporting a family. These reasons all revolve around an outcome, or, in other words, the reasons are justified by the adult and often by society as a whole. A child may accept to play (to work as a "player," as someone who plays) for a very different set of reasons that don't revolve around outcome or justification. As a designer or innovator this provides a very different set of challenges and opportunities than when adults are your audience. It can be hard to describe to other adults a design that has no outcome or justification in the adult world but has it in abundance in the children's world.

Another aspect of play is that it is performed and desired by the same individual in ways that may vary over the course of just a few months or even days, as the experience of childhood is one of literally constant growth and change. If you are an adult designer or innovator with play and young *players*

as your audience, your process needs to be able to focus on the abilities and demands of the individual and simultaneously consider their ongoing developmental process – or risk your product becoming obsolete overnight simply because your audience grew in age. If you design for adults, there's clearly also a constant risk of products becoming irrelevant as the market evolves, develops, or moves on, but it happens at a very different cadence.

To sum up, there are many ways in which conventional wisdom for design and innovation does not work when it comes to kids and play. There are many obvious parallels between the adult experience and the Kids' Experience (KX), but it is important to consider them as distinct worlds and to handle them with two different approaches. I will explain why. Keep reading.

What to expect when you're expecting… kids for research

If you are new to the practice, among the first things you'll notice that is different about research with kids as opposed to research with adults is that the respondents are not their own masters – they can't decide for themselves. Instead, usually a parent or sometimes a school teacher makes decisions on their behalf, including the decision to join a study.

You will likely see a few examples of a misalignment between the child and the adult, for example, that the child wants to join your study but the adults say no, or vice versa, that the adult signs the child up for something they are not actually interested in.

Also, there may be misalignment between child and adult about what will take place during the session. The adult may also be mistaken or out-of-date when it comes to knowing the child's interest, which may lead the adult to sign the child up for a session about something they may no longer be interested in.

Sometimes a parent completely understands your requirements for the research (the where, the when, the how, the why, etc.) and relays this completely to the participating child, but sometimes just partially, and you have no way of knowing which is the case until you have the child in front of you.

The child may be expecting you to do the talking, or that the research session is a play session or a performance test. A lot can go wrong when the child's expectations are not met. It is sometimes tricky enough to get adults who participate in research to fully understand what a given research session is about, and with kids this challenge is, in a way, doubled. One way the researcher may tackle this is to expect nothing in terms of the child's understanding and expectations, and to be ready to introduce everything from the very beginning. This broad-minded approach also oftentimes opens the study up to unexpected insights.

Kids' research and rocket science

In some cases kids' research is not that complicated. If you don't expect to base very important decisions upon it, a small and less-precise study may suffice – it is better to do a minuscule study than no study at all.

A key hurdle for many professionals and students is quite simply to prioritize practical field work over the comfortable office furniture; to them field work requires too much preparation and planning, it takes time, perhaps there are costs, certainly a lot of hassle. Perhaps they prefer to google their way to an insight[2] or to rely on their own personal experiences. Perhaps they work in a context that has little or no tradition of field research – the first step in a new direction being the hardest. Perhaps they are surrounded by very clever people who are more than willing to offer their opinions (and perhaps that's also what they find most interesting about their job) – opinions that, on the one hand, will "spare" everyone the effort of going into the field, but, on the other hand, are not to be confused with facts and the discovery of new insights.

A classic study in 1989[3] by Jakob Nielsen (engineer, author, and early champion of usability testing) concludes that testing with five people lets you find almost as many usability problems as you'd find using many more test participants. As long as it is "... aimed at collecting insights to drive your design, not numbers to impress people in PowerPoint."[4]

It is an interesting article with a striking graph at its center, but it can be a little bit misleading on its own, but it can be complemented[5] with the article "How to find more usability problems with fewer users"[6] by Dr. David Travis of UserFocus. This article dives into the original study behind the graph and the math that points to the fact that "the correct formulation is: '5 participants are enough to get 85% of the usability problems that affect 1 in 3 users,'" which, in short, bridges both the likelihood of discovery (the 85%) and the frequency of problem occurrence (31% on average, so roughly 1 in 3, but likely higher in the prototype phase and lower after the product is launched)[7].

To add to the complexity, one needs to also consider how many test participants are required to find most of the important, the *critical,* problems – and not just insignificant cosmetic problems. Rolf Molich[8], the grand old man

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[2]Chapter 4 has plenty of examples of this practice. Apparently there *are* things that you simply can't learn from "googling" as this article points to: www.quora.com/What-are-some-things-one-can-not-find-on-Google

[3]With updates in 2000: www.nngroup.com/articles/why-you-only-need-to-test-with-5-users/

[4]The quote being from 2012: www.nngroup.com/articles/how-many-test-users/

[5]Thanks to Emil Voxby, who reviewed this book, for pointing this out.

[6]www.userfocus.co.uk/articles/more-usability-problems-with-fewer-users.html

[7]https://measuringu.com/five-users/#many by Jeff Sauro

[8]www.dialogdesign.dk/about-rolf-molich/

of usability studies, conducted a large number of studies (so-called Comparative User Evaluations, CUE-1 to CUE-10[9], some of which I had the pleasure to participate in) to establish an answer, which is that the number is huge:

> A large number of test participants (>>100) and a large number of moderators (>>30) will be required to find most of the critical problems.

Hence, Molich concludes that

> five users will only find a small fraction of the usability problems in a product (but five users are great to drive an iterative process anyway).[10]

The point is that *small can be good*, and that you should feel empowered to run studies with small sample sizes if that is all your resources, time, and budget allow. In fact, it is sometimes ignored that a small qualitative study (with 5 or 10 respondents) is usually much faster than a large one (with 50 or 100) and that the small study can have a tremendous impact simply by helping and informing quickly, at a time where designers and developers still have time and resources available to adapt to the findings. The recommendation is not to stop testing completely after 5 respondents but to plan for ongoing but smaller tests, rather than one or two larger tests (or no tests at all).

This advantage of research agility is even more pronounced in those earlier phases of a project where numerous and crucial decisions are made – even a small amount of research will have a large impact when it is timed and scoped right. In a business context where the time to market is often crucial, planning for multiple iterative smaller studies rather than one big study in the beginning, middle, or the end (or even worse – no audience studies at all) can be helpful while making better use of resources. I will speculate that this agile approach could work in rocket design too – the agile approach has replaced the waterfall model in many other domains already.

There are many requirements that a research project (whether academic or commercial) must meet in order to be credible and impactful. One is that the researcher must clearly indicate exactly how reliable the study is, for example, keeping the scope and nature of the study out in the open is necessary. It is very important to be explicit about how serious and solid the study is. Basing a decision on research with five respondents is much better than basing it on the opinions of the stakeholders or on a google search where hearsay and myths blend together with serious research.

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[9]https://interactions.acm.org/archive/view/november-december-2018/are-usability-evaluations-reproducible
[10]www.dialogdesign.dk/cue-studies/

The status of children in research and in society – and in your own mind

If you have experience researching adults and you expect in a research project with children to simply duplicate your effort and approach, just perhaps scaled down in age, you may be in for a few surprises and setbacks.

The main focus of this book is kids' research in the realms of design, innovation, and marketing – realms that are closely linked to the trends in the society at large, be it in sociology, technology, pedagogy, or psychology, to name a few. One cannot work in kids' research without acknowledging a host of factors that affect or govern how children are raised and how they develop.

Samantha Punch is Professor of Sociology, Social Policy, and Criminology at the University of Stirling. Her PhD included two years of ethnographic fieldwork on rural childhood in Bolivia, exploring children's daily lives at work, home, play, and school. In *Research with Children: The Same or Different from Research with Adults?*[11], she taps into central discussions in society and academia that are still pertinent.

One is *the competence and status of children*, which is also central to research. The following extract from her article highlights the very central dilemma we face as adult researchers, as she examines the tendency to perceive research with children as one of two extremes: either exactly the same as, or entirely different from, adults. As a researcher it is important to align the choice of research method with the status of children:

> If children are perceived as "the same as adults," the researcher will not come up with a special "kid sized" protocol but instead try to treat them as any other person, whether grown-up or not. This approach may skirt over the blatant differences between a child and an adult.

> If on the other hand children are perceived as "different from adults," the researcher will need to come up with ways to describe or at least understand this difference and how it can manifest itself in a study. Ethnography – immersing oneself into a culture and adapting its norms and behaviours – is often considered the most valid approach to bridge this gap. But this approach needs to accept the fact that adults cannot be children – not the children they themselves once were and not the same as those who are now children.

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[11] "Research with Children: The Same or Different from Research with Adults?" Punch, Samantha, in *Childhood: A Global Journal of Child Research*, 2002, Vol.9(3), p.321

Punch also highlights how the core relationship between adults and children affects research.

Most children are used to having much – if not all – of their lives dominated by adults (from soft-touch guidance to heavy-handed imperatives), so children tend to expect adults' power over them and they are not used to being treated as equals by adults. In this respect children are marginalized in adult-centred society, since they do not experience equal power relations with adults and much in their lives is controlled and limited by adults.

As an adult researcher, clearly you were once a child and thus in one theoretical dimension you are an expert on childhood. But in another dimension, your childhood occurred in a different time period, maybe in a different place, likely with different values, certainly with different technologies available. So the context was very different. And then (and this is a third dimension) you, the adult researcher, grew up, learned new things, forgot about things that are no longer acceptable or relevant, so you, in essence, cannot return to your childhood self. As a researcher you must recognize these three dimensions and realize how, and to what extent, this influences your relationships with your child respondents and your research.

Instead of seeking (perhaps unconsciously) to replicate a study setup that is designed for research with adults, the researcher will increase the likelihood of a successful study by expecting different social norms and ways of expression in the kids' study. The metaphor of two different worlds, the kids' and the adults', may be helpful in this context to remind you as a researcher that either you accept the biases of studying kids in an adult world (the research project) or you accept the biases of trying to enter the kids' world with your study. In most cases there will be a middle ground between these two theoretical positions, and you can take any number of steps specific to your project that will create a shared space for communication and sharing.

The risk of trying to force a child into an adult setting is that they will feel uncomfortable, may answer sparingly, and there is a long list of other biases that may jeopardize the purpose of your study (later in this book there's a chapter on bias (Chapter 2) and the chain of potential systematic distortions that can occur in a research setting). The opportunities and steps you can take are explained in the Chapter 3 on best practice.

Another book you can resort to for a more comprehensive introduction to research with children is *Researching Children's Experience: Methods and Methodological Issues* by psychology Professors Sheila Greene and Diane Hogan with the Trinity College Dublin, with contributions from Malcolm Hill and others (Sage 2005)[12].

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[12]A section is available here: https://bit.ly/Greeneandhill

Also relevant in this context is *Designing for Children's Rights* – a global non-profit association, supporting the *Designing for Children's Rights Guide*,[13] which integrates children's rights into the design, business, and development of products and services around the world.

Furthermore, the Digital Futures Commission of the 5Rights Foundation in the UK has released a very comprehensive and helpful literature review by Senior Research Fellow at UCL Institute of Education Dr. Kate Cowan titled "A Panorama of Play" (2020) that supports the agenda to enable and nurture play for children in a digital world.[14]

Kids: a very picky and playful audience – and research target

Children's constant development makes for a moving research target.

The main topic of this book is how to include children (e.g., in product design and innovation) through research, regardless of the type of product or design or content as long as children are amongst the intended audience. That is easier said than done, and one of the challenges is in the very nature of childhood: as kids grow up, they constantly develop new skills and preferences and this challenges the including part, as research clearly needs to be tailored to the skills and abilities of the participants. Read more about the significance and insignificance of children's age as a descriptor in the section "Description bias" in Chapter 2.

One of the ways to move beyond age groups in general and specifically with a focus on research is to understand development deeper through the prism of play. The following section looks at different forms of play and ties this into research approaches.

A spectrum of play – and a spectrum for research

The LEGO Foundation[15] is a nonprofit organization that funds a wealth of research in play.

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[13]The guide, nicknamed D4CR, is here: https://childrensdesignguide.org/

[14]Cowan, K. (2020). *A Panorama of Play – A Literature Review*. Digital Futures Commission. London: 5Rights Foundation. https://digitalfuturescommission.org.uk/wp-content/uploads/2020/10/A-Panorama-of-Play-A-Literature-Review.pdf

[15]The LEGO Foundation owns 25% of the shares in the LEGO Group and it owns and operates the LEGO House, an experience house in Billund that opened in September 2017 and is "designed to give LEGO fans of all ages the ultimate LEGO experience."

It has published a host of white papers about play and kids of all ages, for instance *Play facilitation: the science behind the art of engaging young children* by Jensen et al. (2019).[16]

The white paper offers several ways to understand play in the 3–6 years age range, and it informs us of ways in which research can make use of play.

Play – in the context of learning – can be understood as *free play*, *guided play*, *games*, and/or *instructed play*. To quote from the white paper:

> There are many ways to play, each with different roles for adults and children, and with each posing different demands on the players. The dynamic nature of play has led to some friction in the field. There are researchers who maintain free play as the "gold standard" and argue that adults' roles should be limited or non-existent. Others view guided play, in which adults hold a supportive role, also as play.

This distinction allows us to design our research depending on the nature of the behavior and feedback we wish to obtain from the kids. There are three types of research setup: free play, directed play, and guided play.

A free-play research setup

A free-play research setup has less structure and fewer instructions, and the adult researcher's role is to observe, listen to, and acknowledge children during play. The adult will intervene when children struggle, for example, to join peer play, explain their ideas or needs, make plans, or regulate their emotions. The kids set their own goals in the play, based on their interests. The setup allows them to be very active: explore, ask *what if*, reinvent ideas, and be creative.

As a researcher, you may start out by pointing to a specific play challenge or opportunity but not offer any approach or solution – you will leave it up to the kids to define the goal (likely implicitly through the play), the approach, and the outcome. This may require more time, space, and materials than more directed play approaches. You may also need to be extra diligent in matching kids with others with similar interests and abilities when the setup includes more than one child at a time.

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[16]By Hanne Jensen, Angela Pyle, Jennifer M. Zosh, Hasina B. Ebrahim, Alejandra Zaragoza Scherman, Jyrki Reunamo, and Bridget K. Hamre www.legofoundation.com/media/1681/play-facilitation_the-science-behind-the-art-of-engaging-young-children.pdf

If we need to understand issues linked to executive functions, self-regulation, social skills, self-esteem, health and well-being, and how kids apply their spatial skills and mathematics, we lean toward a free-play research setup.

A directed-play research setup

In the directed-play setup, the adult initiates and directs, the child follows, so, overall, there is more structure and less choice. The adult researcher's role is to guide and scaffold the children's attempts, instruct, observe their efforts, and support them when they struggle to master the intended learning goal or skill.

This setup can be applied if we need to understand the degree to which kids master academic and socio-emotional skills, or if kids can achieve specific goals.

As a researcher, you can resort to conventional research tasks, for example, direct the child to do or find something, but be aware that this approach will only work well for as long as the child is engaged in the task.

A guided-play – or games – research setup

If we need to observe, build on, and extend children's thinking and ideas, the LEGO Foundation's white paper points to an approach that falls in between directed and free play, and which they refer to as guided play.

Guided play has an implicit learning focus – it has a goal, set by the adult, who is the one that creates the context and sets some boundaries around the play. This is why in some ways it resembles a game – it has a starting point (a state), some rules for moving forward, and sometimes also an agreed-upon endpoint (a different state). The roles are well defined; the children make the choosing (e.g., what to do and how) and the adult presents and interacts.

As a researcher, you can take your starting point in the children's own interests and support them in order to achieve one or more goals within a play context. The researcher needs to be mindful that the research questions, and their corresponding suggestions, must make sense in the play scenario.

Games

This approach may be more fun for children than the directed-play setup. Since the point of a game is to follow its specific rules, rather than the adult's rules, it can be experienced as more engaging if the children feel a higher level of autonomy. They may still, however, need adult assistance in understanding the rules.