





Lookout for child abuse: conceptual and practical considerations in creating an online learning programme to engage learners and promote behaviour change

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ABSTRACT

iLookOut for Child Abuse (iLookOut) is an online, interactive educational programme designed to help early childhood educators/practitioners protect young children from harm, and in particular to become better at identifying and reporting suspected child abuse. The purpose of this paper is to describe the conceptual foundations and practical considerations that guided the development of iLookOut.

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Introduction

We know that young children (0–5 years) are more vulnerable to victimization. They account for >75% of deaths from abuse, and a greater proportion of abuse than older children for all categories of maltreatment except sexual abuse (Administration on Children, Youth and Families, 2016). Because early childhood professionals (ECPs)¹ have extended opportunities to observe children and get to know their families, ECPs are strategically positioned to both act as key supports for children/families, and help prevent patterns of maltreatment from taking hold – which includes reporting suspected abuse (Dinehart, Katz, Manfra, & Ullery, 2013). Yet despite 10–12 million American children being under their care, ECPs identify <1% of the more than 650,000 substantiated cases of child abuse in the United States each year (Administration on Children, Youth and Families, 2016).

The earlier in life child abuse occurs, and the longer it persists, the more devastating and lasting its consequences are likely to be for children and the adults they become (Norman et al., 2012). Effective intervention requires knowing which children are at risk – which in turn requires awareness, knowledge of what to report, and appropriate action. Yet, simply presenting information to people who care for children is unlikely to result in significant changes in their behaviour. Emily Dickinson provided both rhyme and reason for taking a more nuanced approach when she commended us to 'Tell all the truth, but tell it slant ... Or every man be blind' (Franklin, 1999). Dickinson's insight is that to bring about the change we envision, we must find creative ways to engage others to do the right thing. As this applies to child abuse, it is not enough to educate those entrusted with

protecting children; we must do so in a way that both prepares them to exercise good judgment, and motivates them to act accordingly.

To engage ECPs, *iLookOut* uses a video-based storyline and game-based techniques (in conjunction with pre/post-testing and follow-up activities). Because *iLookOut* is online, it provides ready, low-cost access to multi-media learning 24/7, and can be paused/resumed as desired (including across multiple sessions). *iLookOut's* format (which includes an overall 8th grade reading level) was designed to provide standardized, high quality education to a ECP workforce that is known for wide variability in its entry level training, skill-sets, work setting, and opportunities for professional development (National Association for Regulatory Administration, 2013; Whitebook, Phillips, & Howes, 2014). To date, *iLookOut* has been shown to significantly improve ECPs' knowledge and change their attitudes (in the desired direction) about child abuse and its reporting (Mathews et al., 2017; Yang et al., 2019); and preliminary results from a 5-year randomized controlled trial suggest that *iLookOut* has a positive impact on ECPs' actual reporting of suspected abuse (see ClinicalTrials.gov, NCT03185728). The purpose of this paper is to describe the conceptual foundations and practical considerations that guided the development of *iLookOut*.

Early stages of *iLookOut*

A pilot version of *iLookOut* was designed by a multi-disciplinary team (working mostly pro-bono) that included experts in mandated reporter training, child advocacy, law, child abuse, pediatrics, early childhood education, ethics, instructional design, and online learning. The initial storyline used point-of-view videography (i.e. the camera functioning as the learner's eyes), with learners taking the role of a ECP working with 4 and 5 year-olds. Key events unfolded over the storyline's 2-day time-frame, portrayed through video-based interactions with children, parents, and co-workers (all played by non-professional actors). As more was revealed about each child's situation, the learner had to decide what, if any, action to take. At different junctures in the story, resource files (e.g. *Types of Child Abuse; Facts About Abuse; Red Flags for Abuse; Reporting Suspected Abuse*; etc.) became available for learners to read, print, and/or download for future reference. Learners were also posed questions and then, based on their responses, were provided information to correct or augment their existing understanding of child abuse and its reporting. At the end, learners were shown a video with narrators discussing elements within the storyline that could (or should) have altered the learner's concern about abuse for each of the 5 children highlighted in the story. Learners were then asked to sign a pledge to fulfil their responsibilities as mandated reporters, and given follow-up resources (e.g. case scenarios for discussion, handouts, etc.) for themselves or co-workers to use.

As a prototype, this initial version of *iLookOut* (which can be accessed at <https://www.ilookoutforchildabuse.com/>) served its purpose and was well embraced – with >12,000 Pennsylvania ECPs completing *iLookOut* in the 3 years since open access began. But with external funding (1 R01 HD088448-03) it became possible to introduce additional creative elements to more effectively engage learners (emotionally and intellectually), develop their skills and judgment, and (hopefully) motivate and empower them to do the right thing. To bring this about, we brought in experts in theatre and film, gamification, ECP professional development, and decision-making psychology.

Conceptual and practical enhancements

Storyline

The first major enhancement involved framing the storyline from different points of view. So rather than positioning the learner as the protagonist who is under pressure to make the right decision at each step, the learner enters at a slant. This involved adapting the script by adding two characters – Megan, a young ECP grappling with some concerns about a child she takes care of, and Elisha, an 'expert' ECP and former mentor of Megan who has experience navigating such situations. In the

introductory video, Elisha, who has just gotten off the phone with Megan, introduces herself and invites the learner to join her to meet with Megan at a nearby coffee shop (see [Figure 1](#)). By creating this personal relationship with Elisha, the learner is drawn into Megan's concerns (about a child who is potentially being abused) without being pressured to make the right decision for an at-risk child. Megan's story and concerns are then revealed through conversation with Elisha, which at times involves video-flashbacks of events at Megan's childcare facility. Integrated throughout Megan and Elisha's conversation are 'lessons' that Elisha shares with the learner, sometimes as an aside, other-times coinciding with advice and instruction given to Megan. The learning programme is tied together through the story that unfolds during conversation at the coffee shop. Because the learner is part of this conversation, Megan and Elisha's real-world concerns become the learner's concerns as well – with Megan's emotional responses guiding the learner through the experience. This includes relating to Megan's fears about how (as 'just a ECP') she can know (and do) what is needed to protect a child from abuse. Elisha's skilful mentoring helps learners become more knowledgeable about red flags for abuse, as well as when and how to report their concerns ([Figure 2](#)). Moreover, the interaction models how learners can carry out their professional responsibilities when they are concerned (and/or uncertain) about a child's safety.

Prior to filming the video-sequences, the *iLookOut* team spent considerable time casting and then rehearsing professional actors to help them establish a strong connection to their character's role; develop a clear understanding of the story's purpose as it concerned ECPs; and deliver nuanced portrayals of characters facing different sides of an abuse situation.

Game elements and techniques

An emerging instructional innovation to enhance learning and motivation is the use of game elements, game mechanics, and game-based thinking (Boller & Kapp, 2017). Gamification is effective because the 'underlying dynamics that make games engaging are largely already recognized and utilized in modern pedagogical practices, [albeit] under different designations' (Stott &

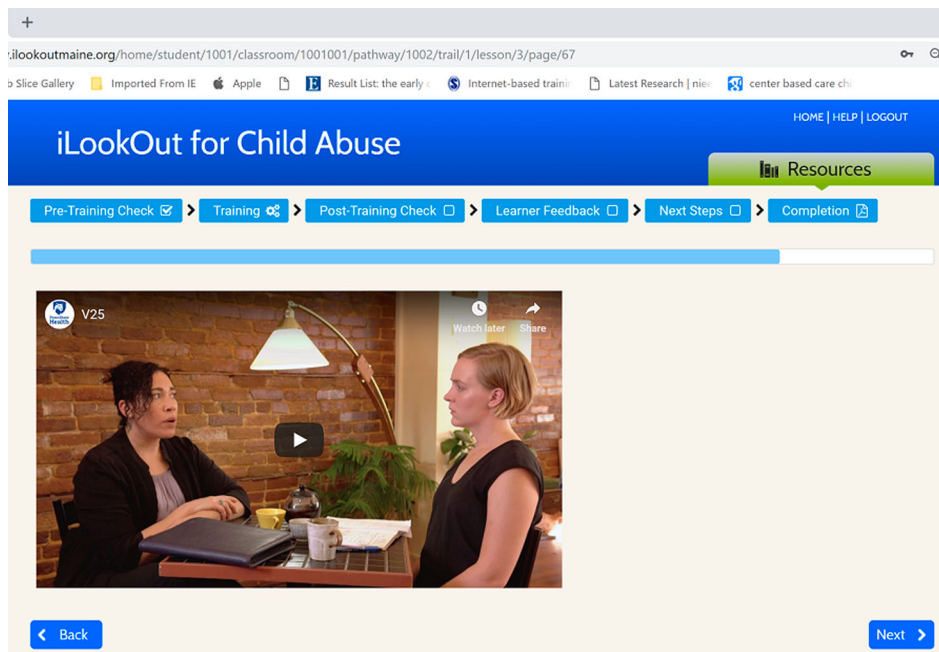


Figure 1. Interaction between Elisha a younger early childhood professional, Megan.



Figure 2. Red Flags handout.

Neustaedter, 2013). As such, the following game-elements were chosen to motivate ECPs to participate in *iLookOut*, help them retain what they learned, and apply this learning in real-world settings.

Story

Story constructs are commonly used in games to add meaning, provide context, and guide action (Kapp, 2012; Martin & Powers, 1983). Stories evoke emotions and provide a context for placing information; they are how humans have handed down information for millennia. People frequently use narratives to inform views of themselves and others, frame past experiences, and provide meaning to actions and activities (McAdams, 2006).

Characters

The use of characters is an important element in many games, especially those incorporating video game dynamics – where characters are often used to motivate players to engage more and/or try harder to succeed. A general principle of learning games is that the more a learner can identify with a character's situation and experience, the more likely s/he is to become invested in the learning exercise.

Mystery

Introducing informational complexity and novel, exciting situations can create a sense of mystery, stimulating learners' curiosity to uncover important information (Malone, 1981; Wilson et al., 2009). By unveiling information gradually, gamification techniques encourage individuals to stay engaged in learning activities, and prevent 'too much' information being revealed at once – which can impede learning. *iLookOut's* evolving storyline stimulates learners, and also provides a staged sequence for developing their awareness, knowledge base, and motivation to act.

Badging

Badges are visible signs of having accomplished particular tasks or performed various behaviours. Badges in gamification provide positive reinforcement to learners for such accomplishments, along with visible credentialing that a learning objective has been achieved (Gibson, Ostashewski,

Flintoff, Grant, & Knight, 2015). With *iLookOut*, ECPs receive digital badges upon completing the initial 3-hour learning programme, as well as for follow-up advanced training that involves micro-learning activities (see below).

Content

The content of *iLookOut* was enhanced to include several topics that are often not explored in depth, despite their importance for understanding when and how to report suspected child abuse. This was done by creating discrete learning modules (within the learning programme) whose interactive exercises use game elements and mechanics. For example, one learning module integrates previous scholarship on 'reasonable suspicion' (Levi & Loeben, 2004; Levi & Portwood, 2011; Levi, Dellasega, & Boehmer, 2012) to construct an animated algorithm that provides both conceptual depth and guidance for figuring out whether a given situation warrants reporting. A separate learning module helps learners differentiate 'child abuse' from parenting that is 'less than ideal.' Other learning modules explore factors (e.g. intimate partner violence and animal abuse) that should raise concern for child abuse. Other modules help differentiate birthmarks from bruising, and worrisome child behaviours from normal development. One of the more lengthy learning modules helps teach ECPs about when and how to ask probing questions (see below). Additionally, several modules explore the mechanics of reporting – what information to have at the ready, how to articulate one's concerns, and what a phone call to child protective services will likely entail (see Figure 3). Throughout these various learning modules, best practices are reinforced, such as remaining alert for patterns of injury or unusual behaviour, and documenting one's observations.

Generalizability

iLookOut is designed for early childhood professionals, and is currently being deployed in the state of Maine (with an earlier prototype still in use in Pennsylvania). Because script-writing, acting, filming,

The screenshot shows a web browser displaying the *iLookOut* for Child Abuse interface. The page title is "iLookOut for Child Abuse" and the URL is "https://www.iloookoutmaine.org/home/student/1001/classroom/1001001/pathway/1002/trail/1/lesson/3/page/72". The page features a blue header with navigation links: HOME | HELP | PROFILE | LOGOUT. Below the header is a progress bar with three tabs: Training (selected), Next Steps, and Completion. The main content area is titled "What will it be like when I call Intake?" and includes the following text:

If you've never called Child Welfare Intake, it can feel like a big deal. Maybe you're not sure if you have enough information. Or, maybe you have a lot of feelings about reporting a family you work with.

The good news? Trained, experienced staff on the other end of the phone are there to help you.

When you call, Intake staff will help walk you through the process of reporting, including questions outlined here.

Click on the tabs below to learn more about what to expect when calling Intake, and remember the "Being Prepared" handout and worksheet will help you when making a report.

Below the text are four input fields:

- Who & Where
- What
- When
- How

Figure 3. Interactive exercise to help learners know what to expect when calling child protective services.

and editing/post-production are time-consuming and expensive, the video-based storyline for *iLookOut* was constructed to be compatible with all U.S. states, and to be applicable to a broad scope of ECPs. Specifically, the setting and events for the storyline were chosen to reflect the lived experience of ECPs who work in any of a variety of early childhood programmes – family-based, centres, pre-schools, and Head Start programmes. In order for the terminology in *iLookOut* to have the broadest applicability, the study team reviewed key U.S. Children’s Bureau white papers, and examined (from all 50 states) child welfare guidelines, and relevant policies regarding early childhood professionals. These findings were then used to construct *iLookOut*’s storyline/script so it would be appropriate for a wide array of ECPs throughout the U.S.

By contrast, the more specific ‘learning modules’ were constructed to be readily adaptable to state-based differences. So, while large swaths of content within the various learning modules are *not* state-specific, some aspects are. For example, definitions, penalties, reporting requirements, contact information, web-based resources, and so forth vary from state to state. For this reason, the discrete learning modules were designed so they could be readily revised to accord with the specific laws, policies, and informational needs of any given U.S. state.

The pre/post-knowledge test was likewise constructed to accommodate state-based differences (Yang et al., 2019). As described elsewhere, a multi-disciplinary group of experts identified key precepts and formed them into question-items, which were then vetted by a separate group of content experts, and subsequently subjected to a formal think-aloud validation protocol (Panlilio et al., 2019). This iterative process yielded a knowledge test that is readily adaptable for use in any U.S. state.

Cognitive sequencing map

To track all curriculum content and ensure integration of learning objectives, a ‘cognitive mapping’ process was undertaken (Kapp et al., 2019). Cognitive Mapping has been found to be useful in many different arenas (e.g. health planning research, Stadler, Dugmore, Venables, MacPhail, & Delany-Moretlwe, 2013, and engineering, Dixon & Lammi, 2014) to ‘map’ the cognitive territory being covered. Cognitive maps can demonstrate the linear progression of a concept or project, or the non-linear relationships between various factors. But they also can serve a developmental purpose, helping people (be they researchers, policy makers, teachers, or learners) develop a deeper understanding of how different elements within a given programme are (or should be) related to one another.

Cognitive mapping of the *iLookOut* programme was used, first and foremost, to identify and ensure the integration of its educational content, skill-building exercises, and metrics for learner achievement. Additionally, *iLookOut*’s cognitive map catalogues the various teaching techniques used in different learning modules, and also helps elucidate elements that were initially missing – be it specific topics (e.g. the relationship between substance abuse disorders and child abuse); conceptual matters (e.g. techniques for avoiding emotional triggering); or opportunities to expand on existing content (e.g. how to promote resilience, or support families where intimate partner violence is occurring). Finally, cognitive sequencing provides a prototype for how ECPs will, themselves, sequence and connect *iLookOut*’s content and learning goals.

Question asking

We know that experts approach situations differently from novices (Chi, Bassok, Lewis, Reimann, & Glaser, 1989; Ericsson & Pool, 2016; Kalyuga & Sweller, 2018). In particular, experts typically consider and explore different kinds of ‘questions,’ which allows them to both learn information and discover connections that novices do not. One of our central goals was to help ECPs develop their ability to ask better questions, and better understand when and to whom various questions should (or should not) be asked. Across several learning modules, ECPs learn how to frame questions in ways that are open-ended and don’t bias particular responses. Additionally, ECPs learn what questions they

should ask *themselves* when confronted with possible child abuse; and are shown the associated thought process that experts undertake when considering those questions (see Figure 4). ECPs also learn about the important distinction between (1) asking questions to learn more information, determine what was happening, and/or gain situational awareness, and (2) asking questions to ‘investigate’ whether abuse is occurring. *iLookOut* expressly teaches ECPs how good question-asking can help determine whether there is reasonable suspicion of abuse (which then triggers mandated reporting). Various learning modules also emphasize what information is needed to make an effective report; that ‘certainty’ is not required to make a report; and that as a mandated reporter a ECP’s role is to report reasonable suspicions of child abuse, *not* to investigate whether abuse is in fact occurring.

Modeling

In both its video storyline and learning modules, *iLookOut* embraces Bandura’s Social Model theory (Bandura, 1969), which posits that people often learn best through observation of others. For example, the interaction between Elisha and Megan (the lead characters in the *iLookOut* storyline) models how ECPs can rely on existing relationships for guidance when they are faced with challenging situations and don’t know how to move forward. Learners also observe how questions can help them deal with doubts and uncertainty. Because such modelling is only helpful to the extent that learners can see how to apply it to their own situations, *iLookOut*’s storyline was expressly designed to reflect the real-life experiences of ECPs – in which key details about a child’s situation are often unknown or unclear.

Safe environment

Research suggests that when dealing with complex subject matter, long-term learning is enhanced by providing practice opportunities for individuals to apply what they have learned, and do so in an

iLookOut for Child Abuse

HOME | HELP | LOGOUT

Resources

Pre-Training Check > Training > Post-Training Check > Learner Feedback > Next Steps > Completion

A big part of being on the lookout involves knowing what questions need to be answered.

HOW OFTEN? Are you seeing a pattern of concerning injuries or behaviors?

HOW SEVERE? Is what you've observed "extreme" or within normal limits?

The **AGE** What is and isn't developmentally appropriate for a child this age?

The **EXPLANATION** Does the explanation "fit" what's happened?

The **IMPACT** How much is the child at risk and/or been harmed already?

Back Next

Figure 4. Interactive exercise to help learners ask better questions.

environment where learners feel safe to make mistakes (Knowles, Holton, & Swanson, 2012; Sheffler, 2009). *iLookOut* does this in part by not forcing learners into a binary, yes/no framework for considering child abuse. Rather, *iLookOut* gives learners opportunities to form judgments about various situations without the pressure of being right or wrong in each instance. This more iterative process offers learners a compelling, low-stakes learning environment in which they can try to predict what will (or should) happen, a practice space where they can 'try out' different perspectives and make mis-steps. In a safe environment, 'failure' prompts learners to reconsider their approach, and to problem-solve – which expands the scope of that learning environment. By creating an environment in which learners are encouraged (but not required) to explore additional content, take chances with their decision-making, and be exposed to realistic consequences for making a wrong or poor decision, *iLookOut* aims to better prepare ECPs for the uncertainty of real-world situations, where the decisions they make will affect the well-being of children.

Pinging

It is well established that one-time interventions typically fall victim to the Ebbinghaus forgetting curve – which shows that most gains in knowledge are lost within 10–21 days (Murre & Dros, 2015). To avoid this pitfall, learners who complete *iLookOut* can download the *iLookOut* app to receive weekly 5–7 min, gamified, micro-learning activities (referred to as 'pings') that reinforce learning and help ECPs stay current on best practices for protecting children. These pings take various forms (scenarios, animated videos, games, etc.), are interactive, and are sent to ECPs' smart phones, tablets, or laptops using a mobile-based technology. A back-end micro-learning platform then tracks learner responses, and provides professional development credit (at no cost) to ECPs who successfully complete these follow-up advanced training activities. A detailed description of *iLookOut* pinging is forthcoming. However, in brief, pings review and expand on key topics in the learning programme (e.g. red flags for abuse, when and how to act on one's concerns, etc.), as well as introduce new material (e.g. what is normal sexual development in young children) that can help ECPs decide how best to respond in a given situation. A separate research project is underway to evaluate the impact of pinging on ECPs' learning and behaviour.

Summary

The *iLookOut* learning programme offers an innovative and integrated approach for helping prepare early childhood professionals to identify and protect young children at risk for abuse. However, its design may be helpful as a prototype for a wide range of other educational interventions – particularly when the goals include cognitive, affective, and behavioural outcomes. Obviously, the resources needed for professional audio-visual and computer programming will typically be unavailable for small scale education projects. But for topics that have a wide audience of learners, the innovative, evidence-based pedagogical techniques described here may prove quite useful for enhancing early childhood professionals' engagement, learning, and motivation.

Note

1. For this paper, the term 'early childhood professionals' is used to denote early childhood educators, daycare providers, childcare workers, family and group home child care providers, pre-school teachers, and others who care for young children.

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