# Full-Contact Poetry: Creating Space for Expression

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**Abstract**

Full-Contact Poetry is a collaborative digital play space for children's poetic expression. It is a Squeak environment in which children can express their poetic thoughts, create their interpretations of writing by others and also share these expressions. Children can experience poetry by playing with words as objects, experimenting with typographic effects and moving words through space, while also incorporating and reconfiguring sound and image. This paper describes the Full-Contact Poetry environment and a six-week workshop that was conducted with a group of adolescents using the environment. In particular, the paper addressed issues encountered in trying to bridge ideas of computation and poetic expression in a constructionist environment.

**Keywords**

Squeak, poetic expression, constructionism, adolescents and workshop

## 1. Introduction

*"The purpose of having a poet in a given class is not to produce thirty full-blown lifelong poets but to touch the kids with poetry, with a feeling for art that may grow from specifics outward for many years and affect many of their responses to daily things, that their lives may be open a touch more to inner and outer vividness" (Collom, 1985).*

Children are born poets, who love to play with words, nursery rhymes and enjoy books by Dr. Seuss and Shel Silverstein. Malaguzzi described children's expression as spanning a hundred languages (Edwards et al., 1993) . While poetry is generally defined as an art of words, Malaguzzi's children can be viewed as poets of many languages, of which words are only one.

Full-Contact Poetry is an environment for children's poetic expression. In this space, children engage with poetry through the personal acts of creation and interpretation. They can create original poetic expressions or interpret existing poetry through text animation, sound and image, enabling them to experience poetry concretely. Children can also share and reflect upon their creations. Full-Contact Poetry combines poetry with a computational medium to create a new language of expression for children.

## 2. Background

Children love poetry and word play as seen by their love of nursery rhymes and books by Dr. Seuss and Shel Silverstein. However, by adulthood, many claim that poetry is too

difficult or esoteric, something they cannot understand and are afraid to attempt. This fear is similar to the "mathophobia" that Seymour Papert discusses in *Mindstorms* (1980). Math is abstract, difficult and hard to relate to and understand personally—at least the way that it is transmitted. Poetry receives similar treatment. The idea of "math" or "poetry" is dissociated from a concrete, personal relationship to the material.

The joy of reading and writing poetry is grounded in emotion, the personal connection one can make with a particular piece. Unfortunately, this initial connection is oftentimes overlooked in a search for universal meaning and critical analysis. This is not to say that poetry or art is devoid of analysis and deep thinking, or that math and science lack emotion and aesthetics; the separation between feeling deeply and thinking critically is a false, albeit popular, one (Cook, 1998).

The poet Kenneth Koch worked with primary school children to teach them canonical "great poetry." He taught by encouraging children to write poetry in styles similar to those of the studied poets so that the children, while expressing themselves, would gain insight into the writing of the great poets and form relationships with those poems. His work had a few great effects: the children were able to work with a poet in a poetic culture, they created relationships to great poets, they expressed themselves originally and they developed a playful relationship to language. In this environment, the children took risks with language in their poems, inventing their own writing styles in poems that dealt with their own experiences. Koch's work with children helped them both to read critically and to write expressively (Koch, 1990).

Digital media can also provide a rich space for children to engage with language and create new forms of poetic expression. There are already numerous websites where children can post poetry that they have written and even some where they may discuss their writing. Adults have created numerous examples and communities online where they share, publish and critique “full-contact poems” that are written in Flash and html, for example. But most of these sites are limited to adults, who occasionally create related content for children to view. Children have not had the opportunity to play with digital media as a tool for poetic expression and interpretation.

## 3. Design

### 3.1. Overview

The design of the Full-Contact Poetry environment is influenced by theories from many fields, ranging from learning, to literary theory, to those of individual poets who work with children in classrooms. The first is Papert's theory of constructionism, which states that knowledge is actively constructed and that this construction can be mediated and facilitated (1980). Full-Contact Poetry is also influenced by literary theory, with its strong tradition of analysis and deconstruction. Two main ideas from deconstruction are that texts contain many meanings and influences and that text is a starting point for response (Roemer, 1995). Individual children can form relationships with texts, find their own meanings and create their own responses. A text, therefore, does not exist as an end in itself but as the beginning of a dialogue: the cycle between construction and deconstruction. The Full-Contact Poetry environment embodies a space between construction and deconstruction so that children can engage in the dialectic process of building, taking apart and rebuilding. This emulates the cyclical process of writing and revising, programming and debugging.

In the Full-Contact Poetry environment, children either construct an interpretation of an already written poem (by a poet, a friend, or the child) or create an original poetic

expression. Many poets who work with children ask them to construct creative responses to poems that they have read (Collom, 1985; Koch, 1990) as a way of understanding the poems, to create relationships with them and to express themselves. Full-Contact Poetry embraces this idea of children creating in response to a text. Children can also move away from prewritten texts to make original expressions.

To facilitate this balance between construction and deconstruction, the environment consists of two parts: a constructive space in which children can build and a deconstructive space in which children can share, discuss, reflect and appropriate each other's work. The deconstructive aspect of the environment draws on children's abilities to interpret existing poetry and also facilitates critique and appropriation of each other's work. In a web space, children can post their projects for other children to encounter and respond to either directly or as source material for another project. This cycle of constructing, deconstructing, reconstructing and discussing gets to the heart of the processes of reading and writing.

The goal of the Full-Contact Poetry environment is not to create a space in which children create flashy finished products, but rather a space in which children slow down the process of creation in order to think about every step and the reasoning behind it. In creating full-contact poems, children tease apart poems to create individual expressions, whether by programming text animations or by deciding which images and sounds to incorporate into their full-contact poems.

### 3.2. Squeak

The Full-Contact Poetry environment is built in Squeak, an open-source implementation of Smalltalk-80, written entirely in Smalltalk. Squeak was chosen over other programming languages and commercial products for many reasons. John Maeda states that artists should develop their own tools instead of limiting themselves by the assumptions of the tool's creators (2000). Squeak supports this goal by giving children a language with which they can define their expressions, as opposed to a commercial product with pre-defined capabilities. Since it is open-source, developers can modify any aspect of the environment and children can add or modify commands.

Squeak was chosen instead of Logo because while Logo is a good language for drawing or animating images and is the original constructionst microworld, it has a poor sense of object, which makes handling diverse media difficult. Smalltalk is a fully object-oriented programming language. Everything is an object, from text to drawings made within the system. In turn, every object is programmable. In Logo, turtles form the basic programmable object. While turtles can wear different costumes, it is difficult to program complex text animations or easily combine multiple media into a narrative. Squeak supports a number of media types, from text and still image to various sound formats, all of which can be programmed through a similar scripting interface.

Squeak projects, as with Logo, can be viewed online through a plugin. There is also a collaborative web environment called a *swiki*. Swikis are pluggable web servers that are written in Squeak. The swiki provides a space in which children can upload projects and create or modify web content.

### 3.3. Environment

The setup of the Full-Contact Poetry environment is straightforward. When children first open the Full-Contact Poetry environment, they see a basic desktop interface. The upper left contains a welcome message and a link to the workshop's swiki. On the lower left are controls for recording sound, a place to store sound files and text objects that the

children can drag into the animation space in order to rewrite and animate. The upper right contains a menu to save projects and import files. The lower right has a control panel that loops, stops or steps through every script open on the screen. A BookMorph, in function similar to a HyperCard stack, appears in the center of the screen. A BookMorph consists of a series of pages, each of which can hold scripted objects. Children can either script objects on a single page to form an animation or they can program the BookMorph to automatically flip through pages when animations on each page finish, giving the effect of changing scenes.

The primary focus in developing the environment was on dynamic and expressive text. Research from both the Visible Language Workshop and the Aesthetics and Computation Group at the MIT Media Lab demonstrate the power of expression contained within the simplicity of type combined with computation. Letters convey emotions (Cho, 1999); words in motion depict particular interpretations of their meanings (Wong, 1995).

In making text an object to play with, words suddenly take on new meaning. In taking a poem apart word-by-word in order to animate it, children must slow down and take time to investigate phrases and their possible representations. How does one convey the meaning of a single word or move a word in a way that draws out its meaning or changes the interpretation of that word? What does a word look like? Is it angry or harsh or soft or active?

The second component of the environment is voice. Reading poetry aloud is a tradition. Poets often travel to give readings. People attend to see the poet, but also to hear the poet's version of his poetry. Speaking colors and interprets static text (Paschen et al. 2001). One speaks of "reading" into a poem, but never of "hearing" into one (Reddy, 1993). Actors practice numerous ways of speaking lines to find what most accurately represents the intents of their characters. Slam poetry depends on performance, the interaction with an audience. Reconfiguring existing sound is also powerful, as demonstrated by DJ culture. Children should be able to work with existing sound, by sampling or other forms of editing, in addition to making their own sounds.

The third component of the environment is still image. Children can add and manipulate original or appropriated images. A child's way of constructing knowledge and meaning is through personal experience (Papert, 1980; Piaget, 1977), which can take many forms. Children's images, like their writing, can serve as poetry, another way of expressing self. The ability to draw over appropriated images, however, enables them to reconfigure it in a way that makes it their own.

Finally, the project had a swiki with a group username and password. Everyone had read and write access, so anyone in the workshop could add to and change the content. A blank version of the Full-Contact Poetry opening project files and documentation on the environment were posted. When a child finished a project, a new empty project could easily be imported. The swiki also contained a page of poetry links, both traditional and multimedia, as a set of examples and another page to post favorite poems. Children could also add pages about themselves or their projects.

## 4. Workshop

### 4.1. Setup

A six-week workshop was held at the South End Technology Center in Boston using the Full-Contact Poetry environment. The Center is located in an underprivileged area of Boston and offers a number of programs for children and adults. The workshop met

twice a week after school for two-hour sessions. The participants also had regular access to the Center's computers and the software.

The participants varied in age and engaged the workshop as they would any of the Center's other classes—it was non-compulsory and they came when they could. Different children came to the workshop over the course of the six weeks, although a core group of five participants attended regularly. The ages ranged from ten to seventeen, and the core group was between fifteen and seventeen years of age.

The Center was the children's space and they came a few times a week to do homework, to find music videos online or just to run into friends. The Center had time set aside from three to five every afternoon for children only, and the workshop fell into that time slot. Some of the children had participated in workshops on LEGO robotics and games design, but the Full-Contact Poetry workshop was the first they encountered that dealt with expression and programming as the central theme.

As soon the workshop began, a series of issues started to emerge. First, the children had difficulty understanding what was meant by "full-contact poetry." It was an idea outside of their experience. We had to develop a language for discussing poetic expression alongside programming. Once the children began to understand the idea of "full-contact poetry," we encountered the serious problem of trying to learn a new tool and simultaneously attempting to express with it. Finally, the children were faced with a new, sometimes intimidating, context of self-expression in a space they associated with other activities. The combination of these issues highlighted some of the differences between programming and robotics workshops in constructionist settings and writing or art workshops with a workshop that attempts to combine the two.

### 4.2. Genre

One of the immediate workshop challenges stemmed from the participants' prior experience with computers. The workshop participants were computer savvy. They had email and regularly surfed the web for games or music videos. Most of them had already participated in the games design and robotics workshops at the Center. But their computer literacy initially closed them off to the proposed activities. They saw the computer as a particular type of tool, for communication and entertainment and, occasionally, homework, not one used for personal expression.

The first day of the workshop involved learning Squeak and swiki basics. In order to create full-contact poetry, the participants had to first understand the tool. We went over some simple scripting, text animation, drawing images, importing images and voice recording in Squeak, then how to create and modify pages on the swiki. We performed all of these steps together, and the children used any text, image and sound they wished.

The children used the new tools for expression, and replicated what they expected to do in an animation space, which was to animate cartoons. The first project that two of the participants developed involved making short animations with characters from the Dragon Ball Z cartoon. The participants did not have extensive examples of the full-contact poetry genre, so they built from what they already knew.

After the first day of the workshop, the children floundered. They knew how to make a few things happen in the Squeak environment, but they did not know what to do with those abilities. The children needed examples to build from, especially since faced with a new genre of expression. Children, like all of us, work from the familiar, from their own knowledge and experience, in order to deconstruct and reconstruct (Collom, 1985). In education, one of the hardest decisions is what to give and what to withhold. There is

a paradox of wanting the child to make discoveries but also of providing the child with a starting point, a spark, and not forcing them to reinvent the wheel.

Initially, the facilitator tried to describe "full-contact poetry," and then showed a few examples built in Squeak. The intent was to supply few examples, enough to get them started, but without providing so many examples that the participants simply copied them. But the children did not have a set of poetic artifacts to work from. This posed another problem: as a group, we could not develop a common language for discussing full-contact poetry without a common set of artifacts and examples. How could we discuss expressive text as a vehicle for dynamic poetic expression without concrete examples in which this occurs? It would be like tying to discuss a sonnet without examples from Shakespeare or Petrarch—giving a form and expecting them to understand, appropriate and respond without context. With multiple examples, the children had more chance of finding something that resonated with them as a starting point to build from.

The participants were shown a number of examples of full-contact poetry, both created in Squeak, and also by poets using Flash and hypertext from web sites. The poetry included some that were intended for children and other more abstract interactions between image and text. This process helped generate ideas for some individual projects, ranging from Jennifer's interpretation of a children's poem (Figure 1) to Mike's series of images accompanied by nonsense rhymes and sound effects.

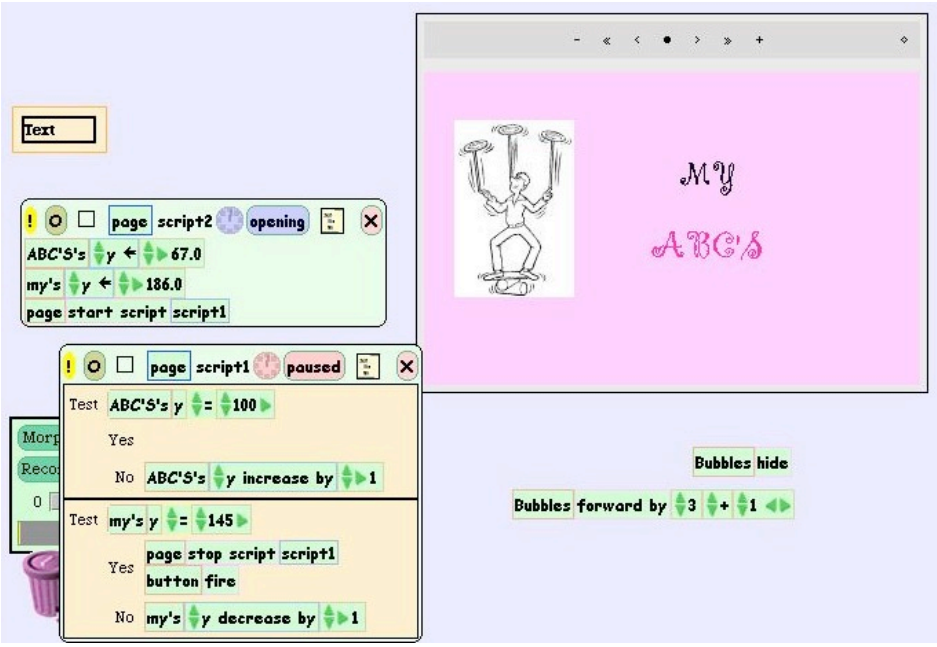


*Figure 1.* Jennifer's workspace, including two scripts and a BookMorph

### 4.3. Exercises

After the first set of examples, the participants faced another wall. What more could they do in the environment? They still did not have a clear idea of what "full-contact poetry" encompassed. They had encountered a few examples made by designers of multimedia poetry, but the experience was still too foreign to them. The examples were not familiars (Collom, 1985) for them, pieces of their own lives that they could understand, appropriate and extend. They needed personal connections, something of their own that they could reconfigure or adapt to this new mode of expression.

The Dragon Ball Z animations from the first day were not the anticipated poetic expressions. Yet the boys involved were building from their experience, using characters that they cared about and exchanging opinions about their animations. Henry Jenkins speaks of children as active consumers of media instead of passive observers. Children take characters, make up their own stories, and in doing so, make the characters their own. The figures from media become a part of how they understand themselves (Jenkins, 1997).

With these concrete examples of deconstruction and reconstruction, the facilitator introduced warm-up exercises to the workshop to help find personal connections and concrete starting points. The exercises removed some of the pressure of trying to come up with an original idea, but left space for theparticipants to be creative and spontaneous. Many poetry workshops use exercises (Collom 1985; Koch, 1990; Steinbergh, 1991), as do programming or robotics workshops in the form of challenges, but these exercises had to bridge the gap between poetry and technology.

In the first successful exercise, the participants were asked to free write for three minutes. No one would read their writing without their explicit permission. They could write anything: nonsense, list things they like, dislike, how their day went, anything whatsoever. Then they were asked to underline a sentence that sounded interesting—not because of the meaning, but for the *sound* of the words. Finally, the participants were asked to draw and animate—without using words—the way the sentence sounds. If a word sounded hard, they would draw and animate a hard looking object, for example.

The activity got them going immediately. The participants dove into projects and were engaged in more collaboration than at any previous point. Since the warm-up exercises were successful, we continued them for the duration of the workshop. If they did not want to participate in the exercise, they could work independently on another project.

In another exercise, the group was asked to import midi files of any song that they liked, and then to change the song by deleting tracks, changing instrumentation and even the sounds of instruments. Once they created a version of the song that they liked, they would create an animation to accompany the song, or part of the song.

The music exercise took days and the children were invested in it. A full day was devoted to finding a song and making it sound just right. For the most part, midi recordings of popular songs are quite tacky, and the children hated hearing their favorite songs warped in such a way. They took a lot of effort to play with the songs, making them quite different from the original. Shawna, for example, made a funk version of Aaliyah's song "Are You That Somebody?" The animations became their most personal, as well, with Jennifer describing her experience as a Puerto Rican immigrant and the aspects of her culture that represented her strength.

The exercises, when successful, took pressure off of everyone. The participants had something concrete to work from, but at the same time, had freedom to express within the exercise. If they enjoyed the exercise, they could continue to build from that, otherwise they were free to work on other projects.

### 4.4. Tool

The workshop suffered from other problems due to its dual nature of combining poetry and programming workshops. The children, while trying to express with the Full-Contact Poetry environment were also just learning the environment. They could not express everything they wanted to because they did not have the technical expertise yet.

A barrier existed between wanting to express something and not knowing how to make it happen immediately in the new environment.

The first hurdle we faced was in understanding the genre of full-contact poetry, of the children discovering what they wanted to express in what was a new medium for them. Once they had something to express, however, they were faced with this new tool. They wanted to be able to create immediately, without the intermediate and sometimes frustrating steps of scripting the actions. The programming environment succeeded in forcing the children to slow down their creative process, of finding multiple ways of expressing the same idea. It also sometimes had the adverse effect of frustrating them, of hindering their expression.

Since the workshop consisted of a small group, the facilitator was able to step through scripting with a participant while still allowing the child to try scripts and debug them without too much frustration. Most of this occurred by talking through problems and steps, so the participant made the actual decisions, while the facilitator helped talk out what the commands would do and possible bugs. However, even in a small group of five, it was difficult to balance between the participants' various needs and demands, with one trying to debug and another trying to think of an idea.

By the end of the workshop, we ended up balancing between technology and expression in a way similar to the exercises to encourage the children's expression. At the start of a workshop session, the facilitator would quickly introduce a new animation technique, and then start the exercise. At other times, if a couple of children were working through a similar problem, we would take a step back and the facilitator would help them develop a viable script together.

The problem of working with any new tool is best solved with time. Given more time, the children could explore both the tool and their expression and likely become more fluent in both. Unfortunately, even a six-week workshop does not provide adequate time to learn a new tool, let alone learn it well enough to express comfortably with it.

### 4.5. Context

Finally, there was the issue of context. The Center was a space where the children hung out, made games, built robots, did homework and talked to their friends. The workshop required the participants to change their relationship to the space.

The first change was simply by having a workshop. The idea of workshop was foreign to the participants. They were expecting a guided class in which a teacher presented material and assigned tasks or projects. It took a few sessions for the group to reconcile expectations in which finally, the facilitator had a less authoritative or instructive role and instead, worked with participants on projects that they designed.

The second, and more dangerous change, was in asking the participants to create personal expressions. This generated an epidemic of "expressophobia" in which the children were afraid to share their expressions. Unlike Papert's mathophobics or adult expressophobics, the participants were not scared of poetry as something difficult or esoteric, but rather as something that made them vulnerable to their peers.

The first incident of expressophobia occurred on the first day. The facilitator introduced the children to how the swiki works. Most of the group made simple pages and wrote "Hello" or "Waz up." One person started to write something more on his page. It rhymed and had attitude, but as soon as others realized that Mike was writing something more, they leaned over to look and he erased it.

Another day, the group sat outside talking and drawing. Ron was drawing Wolverine, from the comic series X-Men. As a school bus pulled up, he handed the facilitator the picture and said, “I’m done.” A child a few years younger came by and said, “I didn’t know you draw.” He said, “I don’t.” The child retorted, “But I saw you drawing.” “Nah,” he ended. When the child left, the participant reclaimed the sketchpad and finished his drawing. Expression, at least in this context, was neither safe nor “cool.” It belonged in a separate space.

The children’s fear of expression reflected on their self-confidence. The question was not so much about ability. They knew that they could express themselves, that they could make things, that they had the ability, once we negotiated what full-contact poetry was. The fear was, “What will other people think of me?”

Working with the children individually, they were able to trust that the facilitator would not make fun of their work or judge whether they were right or wrong, good or bad, but try to find ways to add to them or brainstorm new directions. However, they avoided sharing their work with each other. As personal relationships solidified and the participants relaxed into exercises and individual projects, they eventually realized began to compare their projects.

Since the fear was so prevalent and remained unspoken, the facilitator did not push the idea of posting projects online and critiquing work as a group. Instead, she met individually with the children regarding their work, gave feedback which mostly involved support for their ideas and enthusiasm about some cool animation, image or song, and then made some suggestions for how to take the project deeper. We discussed different directions a poem may take or alternate ways of representing an idea. Much of the work was to try to bolster self-confidence. While they were given some criticism, participants were mostly encouraged to express and experiment more. As they began sharing their work, they saw new ideas in each other’s work and commented on it.

## 5. Conclusion

When working in a classroom or school environment, there are many expectations in place. The full-contact poetry environment was created with the intent of encouraging children to interact with poetry and expression in a new way. Despite the fact that the designer brought the tool to the children in a non-formal setting, there were a number of built-in expectations that affected how the tool was used. First, the idea of full-contact poetry was new, so the children tried to relate it to something they understood, namely cartoons. Secondly, the tool was unknown and needed to be learned in a way that did not detract from the children's expression with that tool.

The children were in a very vulnerable position of using an unfamiliar tool to express themselves in a new expressive form, while surrounded by their peers as they experimented. How would the workshop have been different if we were all in remote locations, only sharing work online? The children may have been less vulnerable, only publishing work when they were ready to share with others. But they would have had less immediate technical support and may have experienced more frustration. It also may have been more difficult to reach an understanding of "full-contact poetry" without real-time conversations.

The workshop was refined by the interactions between the children and facilitator, in a way that technologies are often refined through user testing. This particular workshop experience involved negotiations at many levels. Each member needed to find an individual voice both as part of the group and as a poet. We needed to create a language

with which we could discuss the work that we were creating since traditional language regarding poetry or technology did not fit perfectly. Finally, we were faced with new contexts. We were working with technology, but not in the way they were accustomed—likewise with poetry. These negotiations involved our changing mental models of how the workshop, technology and group were "supposed" to be in order to create a space in which the participants could express themselves freely and safely.

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