



Educational Technology for Creativity, Collaboration and Community

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How Can ICT Help Education?

Information access

Distance education

Motivation

Differentiation

Extends learning day

Efficiency of learners

Efficiency of teachers



Scale

- ▶ Creativity
- ▶ Collaboration
- ▶ Community

Inspire learners
Increase capacity
Do meaningful work

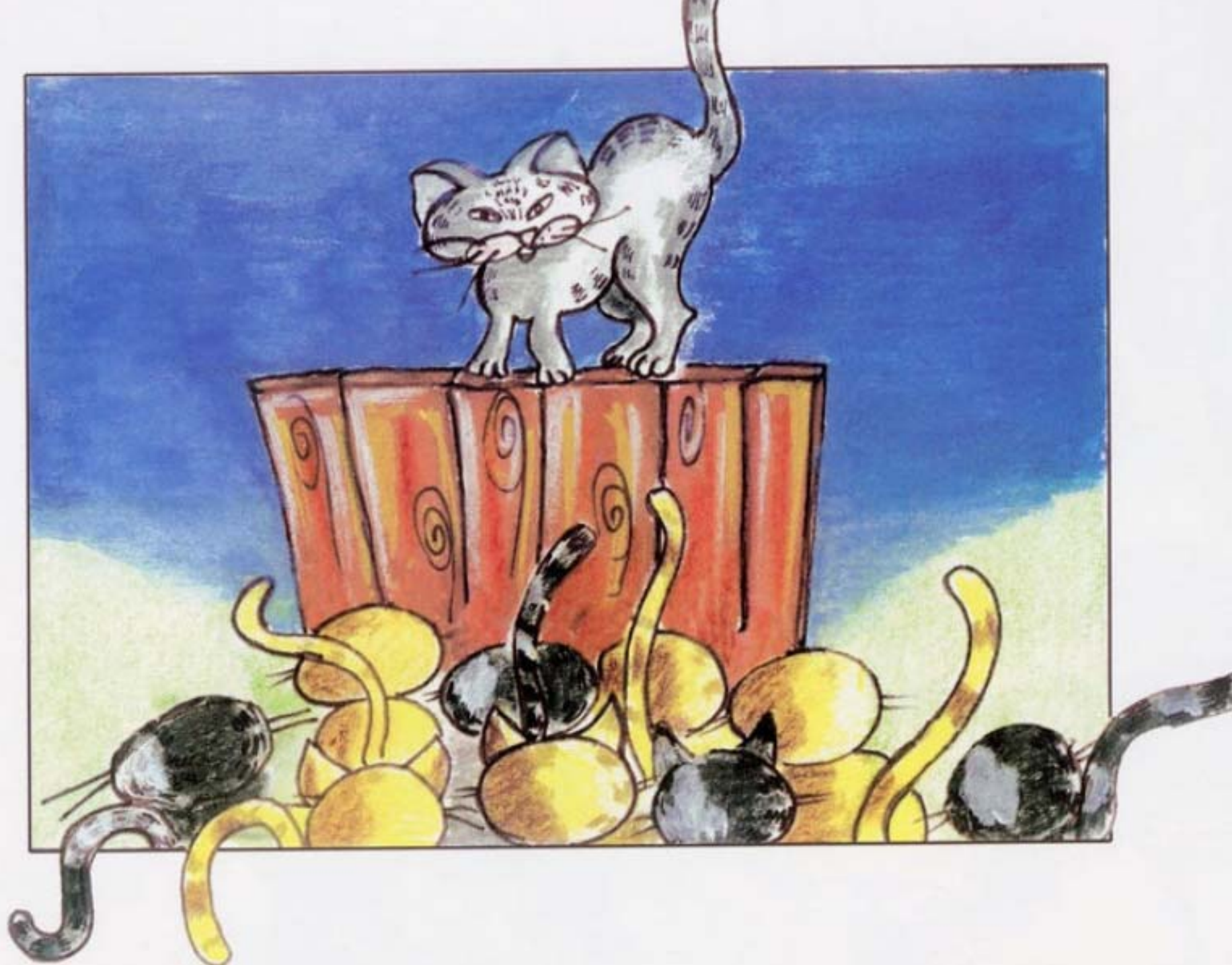


“Once upon a time a huge tribe of cats lived in a remote village. A river divided the village in two. Black cats lived on one bank and blonde cats lived on the other... In summer and autumn, a black cat ruled the village and in spring and winter, a blonde cat ruled the village.”

-Black ears ... blonde ears (2002)





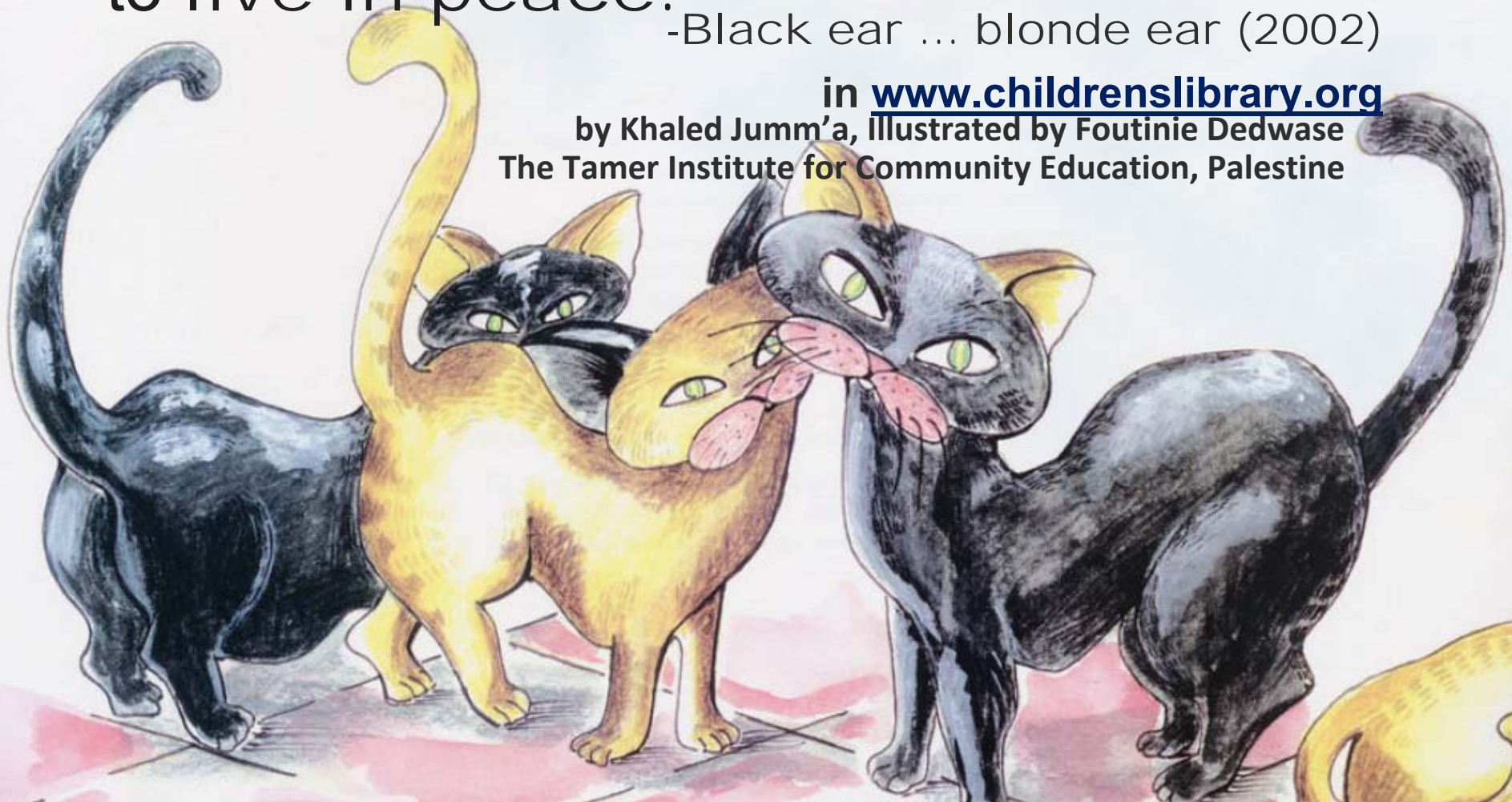


"I think you can hear me now. If you are all willing to listen to each other, we will be able to solve our problems. Only when you can do that will we be happy and able to live in peace."

-Black ear ... blonde ear (2002)

in www.childrenslibrary.org

by Khaled Jumm'a, Illustrated by Foutinie Dedwase
The Tamer Institute for Community Education, Palestine





International Children's Digital Library



research led by the UMD
now a non-profit foundation

3,000,000 unique visitors

150,000 pages of digitized books

100,000 visitors per month

books in **54** languages

website in 16 languages



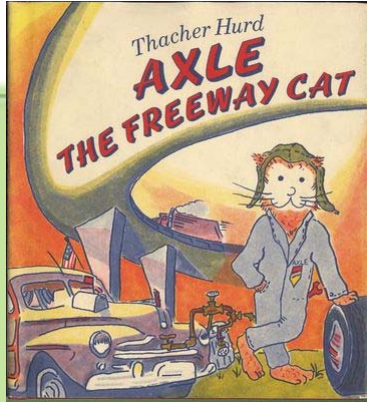
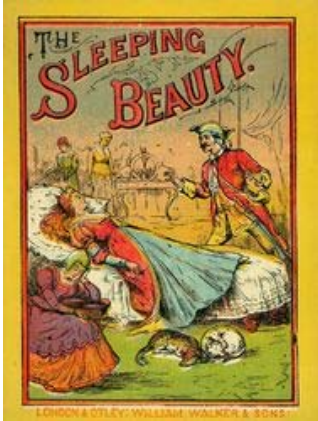
users in **200+** countries

www.childrenslibrary.org

Demo



Taiwanese teachers **support** working mothers & their **children...**



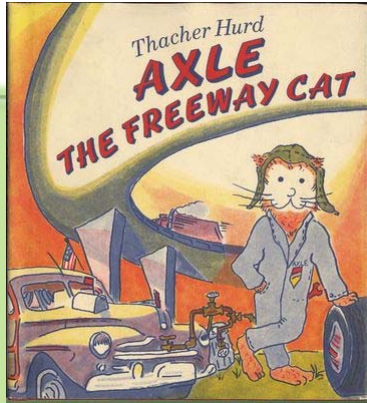
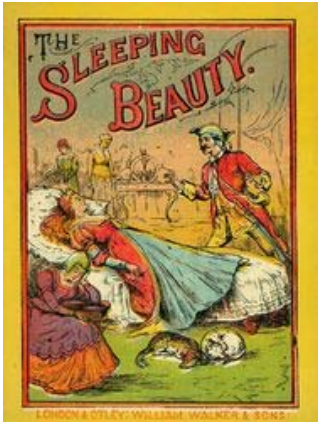
English taught as a 2nd language



ICDL books used to **read/write** their own stories

ICDL is tool for 2nd language acquisition

Romanian class translates books on bullies



half the class **translates** a book

the other half **reviews**
translations



ICDL supports translation **work**
& language acquisition



4-Country, 4-Year Study

- Children, teachers, librarians, parents in **Honduras, Germany, New Zealand, USA** participated
- Case study methods were used to understand how children changed in their attitudes towards **books, technology & world views**
- Reviewed hundreds of hours of voice, video, stories, etc. from children, their parents, teachers and librarians.



4-Country, 4-Year Study

- Children's motivation to read was increased with the ICDL
- Children read more diverse books...
- Children's confidence with technology increased...
- Children's world view expanded...

Mongolia

- Working with Ministry of Education
 - Funded by World Bank
 - Adding digital access to traditional literacy project
-
- Phase I – Urban
 - Phase II – Rural
 - Phase III – Mobile











Mongolian
Education
Alliance



READ
Rural Education and
Development

ХӨДӨӨГИЙН СУМ, БАГИЙН
СУРГУУЛИУДЫН БАГААНГИЙН БАГШ
НАРЫН МЭРГЭЖИЙН ХӨШӨЛӨӨ





Laptops & ICDL

- First pilot now
- **Thousands of** laptops in schools
- ICDL on every laptop

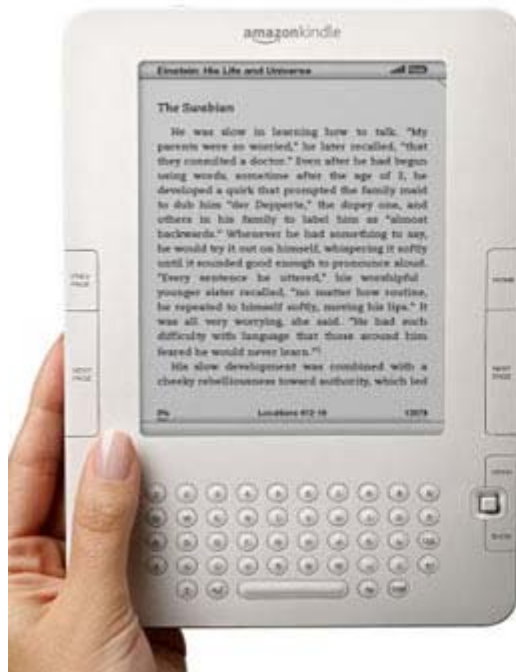


Mobile Access

Why should information access be limited?

Desktop-only access is going away

ICDL for iPhone



International Children's Digital Library www.childrenslibrary.org

Mobile Creativity

Mobile is a place not only for consumption

- ... of games
- ... of news
- ... of web pages
- ... of books

But also for creative expression

- ... call
- ... text
- ... and actually write stories

StoryKit



International Children's Digital Library www.childrenslibrary.org

Mobile Creativity ≠ Desktop Creativity

Physical challenges:

- Tiny screen
- Poor text entry
- Low resolution drawing



And design challenges:

- Interruptible
- Short bursts of creativity
- Switching physical / virtual context

But physical context gives:

- Location
- Communication
- Sound
- Pictures

KidsTeam – Children as Design Partners



StoryKit: Mobile Authoring



Monster Attack!

It was just a normal day in the city of Seattle.



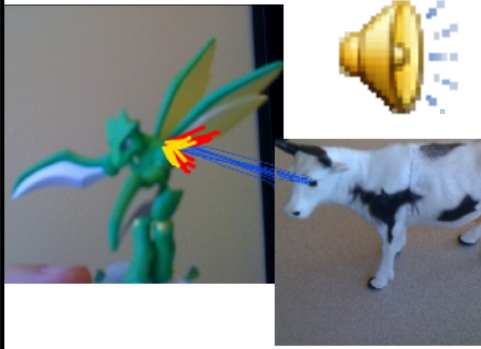
Until suddenly, a MONSTER arrived!...



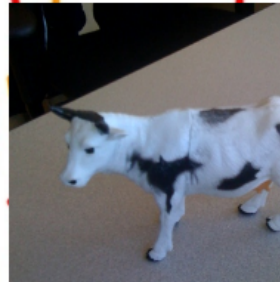
Suddenly, bolts of electricity were shooting from the creature's arms!...



Fortunately, the Magical Flying Cow showed-up with her Super Laser Vision and SAVED THE DAY!



The End.



Computational Thinking

- Don't stop with language literacy
- Try Scratch – <http://scratch.mit.edu>



```
set volume to 100 %  
forever  
  play sound hello until done  
  change volume by -10  
  if volume = 0  
    stop script
```

Easy entry
Media based
Syntax free
Encourages experimentation
Built in sharing

Collaboration – In The Classroom

Wikis

Let

Students

Teach

Each

Other



Try www.etherpad.com

Engage with Meaningful Activities

abase	abscond	acrimonious	affable	alleviate	amoral
abate	absolve	acronym	affectation	allocate	amorphous
abdicate	abstemious	acumen	affidavit	allot	anachronism
aberration	abstinent	acute	affinity	alloy	anagram
abet	abstruse	adage	affliction	allusion	analogy
abeyance	abysmal	adduce	affront	altruism	anarchy
abhor	accede	adherent	aftermath	amalgamate	anathema
abhorrent	accentuate	adjunct	aggrandize	amass	ancillary
abjure	accolade	admonish	aggrieve	ambiguous	anecdote
abomination	accrue	adulation	aghost	ambivalent	anhydrous
aboriginal	acculturation	adulterate	alacrity	ameliorate	animosity
abound	acerbic	adumbrate	alchemy	amenable	anomaly
abrade	acquiesce	adventitious	alienate	amiable	antecedent
abridge	acquisitive	advocate	allege	amid	antedate
abrogate	acquit	aesthetic	allegiance	amnesty	anterior

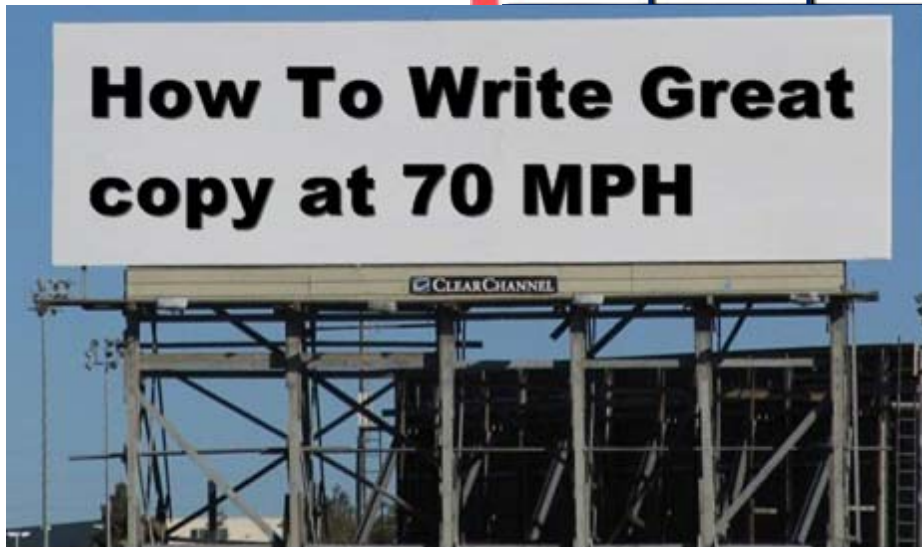
Idea: Study Vocabulary in the Real World



Idea: Study Vocabulary in the Real World

Creating web site

- Social
- Fun
- Integrates with classroom
- Driven by teacher



Idea: Let Construct Their Own Meaning

- Children not well served by existing dictionaries
- Define “the”:

Definite article (used, esp. before a noun, with a specifying or particularizing effect, as opposed to the indefinite or generalizing force of the indefinite article a or an) – dictionary.com

def.art. Used before singular or plural nouns and noun phrases that denote particular, specified persons or things: the baby; the dress I wore. Used before a noun, and generally stressed, to emphasize one of a group ...

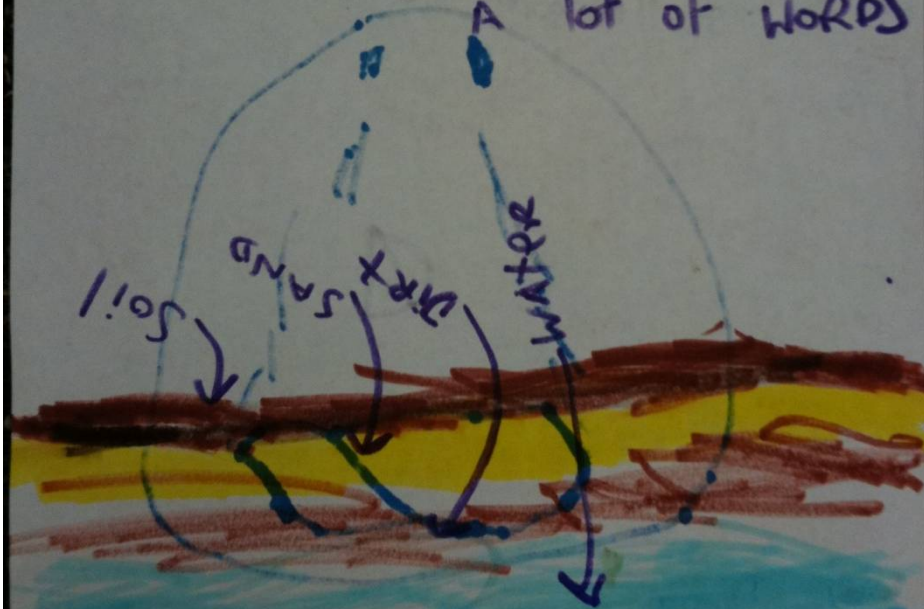
kids.yahoo.com/reference/dictionary

► *We looked at how children define words*

5B

the

the sand
the furniture
the picture frame comes Before
A lot of words

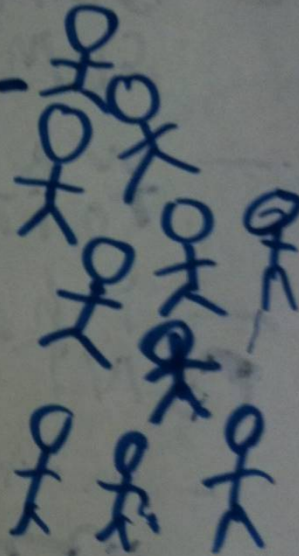


Everybody

7

B

- all people.
- OPPOSITE of NO-body.
- A NOUN



Stephen

8/05/09

Misunderstood

- Not believed
- Not understood
- believed differently
- Not understandable

Story

- something in a book
- a fairy-tale
- a collection of words
- a level of a building
- something you would tell someone

Creating website that:

- Children create defn's
- Rate other defn's
- Get credit for participation
- Supports classrooms
- Engages volunteer moderators
- Integrates with ICDL
- Integrates with world bingo

Idea: Make Penpals Meaningful

People in Need Partnership - Transformation through relationship - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.peopleinneed.info/

Live website that:

- Creates partnerships
- Helps the donee
- But really for the donor
- www.pinpartnership.org

HOME | INTRO | MY PARTNERSHIP | SIGN IN | CONTACT | TELL-A-FRIEND

PEOPLE IN NEED PARTNERSHIP

ONE PERSONAL RELATIONSHIP FOR THE WORLD

connect learn share act

Michelene is nine years old, and stopped going to school when her father died. She loved school but can't go because her mother, who is sick, doesn't work. "We cannot eat regularly. Sometimes we have one meal a day. Most of the time we eat bread, sometimes rice with salt, just white, and nothing else." Sponsorship level: \$12 per month.

Learn more
Send this child to school

Vanessa has fever and sometimes convulsions.

migraine, cold, and Vanessa does not eat sometimes eats only mother does not have nobody shares food spend the day with


Learn more
Send this child to school

People in Need Partnership is a remarkable way to form a genuine relationship with a person living in extreme poverty in some of the worst slums in the world.

news
partnership
testimonies

anted to
nding but
oto of m
receiving
g for sch
joy to ad
p for a se
ou for all

From: Guadalupe Joseph
ID: Dana Pedraza
this is my house!
love!



Looking Forward

Computers are devices for:

- ▶ Retrieval of Information
- ▶ Creation of Information
- ▶ Communication
- ▶ Solving problems together

All the tools are here
Trust the learners
Start with your own creativity

We're looking for partners:

- ▶ Books in more languages
- ▶ Broader deployment
- ▶ Further innovation



www.cs.umd.edu/~bederson
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