Making ML Training Fun and Fast

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qualitative coding
The diagram illustrates a process from real data to abstract theory. It starts with multiple data points, each coded as a category. These categories are further divided into subcategories, leading to themes/concepts. Finally, this process leads to assertions/theory. The progression is from particular to general on the horizontal axis and from real to abstract on the vertical axis.
Concrete experience:
data, transcripts and
notes

Active experimentation -
look for patterns, test
for fit

Familiarization with
data; time on
reflection; reordering of data

Extraction of key
concepts
<table>
<thead>
<tr>
<th>Participant</th>
<th>Observation Summary</th>
<th>Primary Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geniene</td>
<td>Gentle spirit with her class, maintains an atmosphere conducive to arts learning. Participates with children in activities. University minor in dance. Welcoming of arts experiences, supportive of artists-in-residence.</td>
<td>EMBRACES ART ARTIST'S SENSIBILITY PARTIPATES WELCOMING</td>
</tr>
<tr>
<td>Andrea</td>
<td>Perceives some value to the classroom activities, but wants more arts integration with “traditional” curriculum (math, language arts, etc.). Concerned about children’s ability to focus on arts activities. Has a collegial quality about her and the artists-in-residence.</td>
<td>CURRICULUM-BASED “TRADITIONAL” COOPERATIVE</td>
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<tr>
<td>Martha</td>
<td>Concerned about arts experiences taking up class time. Intervenes a lot when artists-in-residence have management issues with children. Visitors inherit Martha’s classroom dynamics and culture. Lots of cliques among the children.</td>
<td>MISMANAGED CLASS FRACTURED COMMUNITY CONTROLLING</td>
</tr>
<tr>
<td>Anne</td>
<td>Strict disciplinarian in classroom, does not want daily routine disrupted. Speaks sternly to children. Limits amount of time artists-in-residence can spend in classroom. Withdrawed from program four weeks into the study.</td>
<td>DISCIPLINARIAN RESISTANT WITHEWRED</td>
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</table>
its sub- and sub-subcategories

FRIENDSHIPS+4

SOCIAL
INTERACTION WITH PEOPLE
CONNECTING WITH PEOPLE
FAMILY RELATIONSHIPS
NETWORKING (WITH OTHER GAY PEOPLE)
RECREATE COMMUNITY
TALKATIVE

HUMAN AWARENESS
OPEN-MINDEDNESS / TOLERANCE
CULTURAL AWARENESS
TRUSTING OTHERS
LISTENING
BELONGING
ACCEPTANCE

IDENTITY
DISCOVERY OF TALENTS / STRENGTHS
ENTERTAINING
SENSE OF PURPOSE / FOCUS
WISH FULFILLMENT
WHAT MATTERS
BELIEF SYSTEMS

EMPATHY
EMOTIONAL INTELLIGENCE / GROUNDING
HAPPINESS
PASSION
JOY
HAVE FUN
SENSE OF HUMOR
PRIDE
LOVABLE
• *short description* – the name of the code itself
• *detailed description* – a 1–3 sentence description of the coded datum’s qualities or properties
• *inclusion criteria* – conditions of the datum or phenomenon that merit the code
• *exclusion criteria* – exceptions or particular instances of the datum or phenomenon that do not merit the code
• *typical exemplars* – a few examples of data that best represent the code
• *atypical exemplars* – extreme or special examples of data that still represent the code
• “*close, but no*” – data examples that could mistakenly be assigned this particular code
“Memos are sites of conversations with ourselves about data”

“Roughly equivalent to a lab notebook in experimental research”
Intercoder agreement

Cohen’s kappa

Pearson’s r
QC data

ML data
<table>
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<td>labels</td>
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<tr>
<td>coders</td>
<td>SMEs</td>
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QC

data
codes
coders
codebooks

ML

data
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SMEs
?
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<td>data displays</td>
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hypothesis

ML training + QC ➔ faster & more fun
Hello, world!

This is a simple hero unit, a simple Jumbotron-style component for calling extra attention to featured content or information.


Learn More
Futures

Light VR version
an environment for design scrums
(full-fledged AR presentation)
(watson for experience measurement)