

```
#This script creates a linguistic network based on the theoretical
texts corpus
#It will write a comma separated variables file called
"listNodesTheoretical.csv" to the working directory
#The end product is allNetTheoretical to be used in further analyses.
```

```
#First load necessary packages
```

```
library(tm)
```

```
library(igraph)
```

```
#Load the files we need
```

```
allTheoretical <- Corpus(DirSource("textsTheoretical",
encoding="UTF-8"), readerControl = list(language="lat"))
```

```
#Perform basic text-mining preprocessing
```

```
allTheoretical<-tm_map(allTheoretical,tolower)
```

```
allTheoretical<-tm_map(allTheoretical,removePunctuation)
```

```
allTheoretical<-tm_map(allTheoretical,stripWhitespace)
```

```
#Algorithmic rules
```

```
#These take the form of searching for and replacing a number of
words throughout the corpus
```

```
#The substituted words follow the ==sign after 'pattern' in each
line. These words are replaced with 'replacement'.
```

```
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<accompanies\\>|\\<accompanying\\>)", replacement =
"accompanied")
```

```
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "accordingly", replacement = "according")
```

```
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<achieve2013\\>|\\<achieving\\>)", replacement =
"achieve")
```

```
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<acknowledged\\>|\\<acknowledges\\>)", replacement =
"acknowledge")
```

```
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<acquisition\\>|\\<acquiring\\>|\\<acquired\\>)",
replacement = "acquire")
```

```
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<acting\\>|\\<acted\\>|\\<acts\\>)", replacement =
"act")
```

```
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "actions", replacement = "action")
```

```
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "actively", replacement = "active")
```

```
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "activities", replacement = "activity")
```

```
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<actuality\\>|\\<actually\\>)", replacement =
"actual")
```

```
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "adaptively", replacement = "adaptable")
```

```
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<additionally\\>|\\<additional\\>|\\<addition\\>|\\
\\<adding\\>|\\<added\\>)", replacement = "add")
```

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allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
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pattern = "(\\<addressing\\>|\\<addressed\\>)", replacement =
"address")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "adults", replacement = "adult")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "advancing", replacement = "advance")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "aesthetically", replacement = "aesthetic")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "ages", replacement = "age")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "agreement", replacement = "agree")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<aimed\\>|\\<aims\\>)", replacement = "aim")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<allowing\\>|\\<allowed\\>|\\<allows\\>)", replacement
= "allow")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "alongside", replacement = "along")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<analysis\\>|\\<analyses\\>|\\<analysed\\>|\\
\\<analytical\\>|\\<analytic\\>|\\<analyze\\>|\\<analyzing\\>)",
replacement = "analyse")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<answered\\>|\\<answering\\>|\\<answers\\>)",
replacement = "answer")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "appearance", replacement = "appear")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "applications", replacement = "application")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<applicable\\>|\\<applying\\>|\\<applied\\>)",
replacement = "apply")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "approaches", replacement = "approach")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<appropriately\\>|\\<appropriateness\\>)", replacement
= "appropriate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<argumentation\\>|\\<arguments\\>|\\<argument\\>|\\
\\<argues\\>|\\<argued\\>)", replacement = "argue")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<arisen\\>|\\<arises\\>|\\<arising\\>)",
replacement="arise")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<articulated\\>|\\<articulating\\
\\>)", replacement="articulate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "artifacts", replacement = "artifact")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<asking\\>|\\<asks\\>)", replacement = "ask")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "aspects", replacement = "aspect")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),

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pattern = "(\\<assigned\\>|\\<assigning\\>)", replacement =
"assign")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<associating\\>|\\<associated\\>|\\<association\\
\\>)", replacement = "associate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<assumption\\>|\\<assumptions\\>)", replacement =
"assume")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "attributed", replacement="attribute")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<became\\>|\\<becomes\\>|\\<becoming\\>)",
replacement="become")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<beginning\\>|\\<begins\\>)", replacement="begin")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "behaviors", replacement="behavior")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "attributed", replacement="attribute")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<beliefs\\>|\\<believed\\>)", replacement="belief")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "books", replacement="book")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "broader", replacement="broad")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<built\\>|\\<builds\\>)", replacement="build")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "capabilities", replacement="capability")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<carrying\\>|\\<carried\\>|\\<carries\\>)",
replacement="carry")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<categorization\\>|\\<classification\\>|\\
\\<categorizing\\>|\\<categorized\\>|\\<categorize\\>|\\<classified\\
\\>|\\<categories\\>|\\<classify\\>|\\<category\\>)",
replacement="category_classify")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<centered\\>|\\<centred\\>|\\<centre\\>)",
replacement="center")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "centrality", replacement="central")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<challenging\\>|\\<challenged\\>|\\<challenges\\>)",
replacement="challenge")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "changes\\>|\\<changed", replacement="change")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "characteristics", replacement="characteristic")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<childs\\>|\\<child's\\>|\\<children\\>|\\<children's\\
\\>|\\<childrens\\>)", replacement="child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<choices\\>|\\<choosing\\>|\\<choose\\>|\\<chosen\\>|\\

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\<chose\>)", replacement="choice")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<claimed\\>|\\<claims\\>)", replacement="claim")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "classes", replacement="class")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "classrooms", replacement="classroom")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<coconstructing\\>|\\<coconstructors\\>|\\
\\<coconstruction\\>)", replacement="coconstruct")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "cognitively", replacement="cognitive")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<collaborating\\>|\\<collaborations\\>|\\
\\<collaboration\\>|\\<collaboratively\\>|\\<collaborative\\>|\\
\\<collaborative\\>|\\<collaborators\\>|\\<collaborate\\>)",
replacement="collaborate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<collecting\\>|\\<collection\\>|\\<collected\\>)",
replacement="collect") #\\>|\\<collective ??
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<combination\\>|\\<combining\\>|\\<combined\\>)",
replacement="combine")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "comes", replacement="come")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<communicate\\>|\\<communicating\\>|\\<communication\\
\\>|\\<communicative\\>|\\<communicators\\>)",
replacement="communicate") #\\>|\\<communities ??
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<communitybased\\>|\\<communities\\>)",
replacement="community")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "comparison", replacement="compare")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "completing\\>|\\<completion", replacement="complete")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<complexities\\>|\\<complexity\\>)",
replacement="complexity")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "components", replacement="component")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<comprised\\>|\\<comprises\\>)",
replacement="comprise")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "computers", replacement="computer")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<conceptualization\\>|\\<conceptualizing\\>|\\
\\<conceptualized\\>|\\<conceptually\\>|\\<conceptualize\\>|\\
\\<conceptions\\>|\\<conception\\>|\\<conceptual\\>|\\<concepts\\>)",
replacement="concept")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<concerning\\>|\\<concerned\\>|\\<concerns\\>)",
replacement="concern")

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allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<concluding\\>|\\<conclusions\\>|\\<concluded\\>|\\<conclude\\>)", replacement="conclusion")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<conducting\\>|\\<conducted\\>)", replacement="conduct")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<confirmation\\>|\\<confirmed\\>)", replacement="confirm")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "conflicts", replacement="conflict")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "conjectures", replacement="conjecture")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<connections\\>|\\<connection\\>|\\<connected\\>|\\<connects\\>)", replacement="connect")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<consideration\\>|\\<considered\\>|\\<considers\\>)", replacement="consider")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<consistently\\>|\\<consistency\\>)", replacement="consistent")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<consists\\>|\\<consisted\\>|\\<consisting\\>)", replacement="consist")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<constituted\\>|\\<constitutes\\>|\\<constituent\\>)", replacement="constitute")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<constructing\\>|\\<constructive\\>|\\<construction\\>|\\<constructed\\>|\\<constructs\\>)", replacement="construct")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "constructivist", replacement="constructivism")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<contexts'\\>|\\<contexts\\>|\\<context'\\>)", replacement="context")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<context-sensitive'\\>|\\<contextualized\\>)", replacement="contextual")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<continuously\\>|\\<continually\\>|\\<continuing\\>|\\<continued\\>)", replacement="continue")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<conversational\\>|\\<conversations\\>)", replacement="conversation")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "correctly", replacement="correct")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<creating\\>|\\<created\\>|\\<creates\\>)", replacement="create")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "creativity", replacement="creative")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "criteria", replacement="criterion")

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allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "critically", replacement="critical")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<curricula\\>|\\<curricular\\>)",
replacement="curriculum")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<cyclical\\>|\\<cyclic\\>)", replacement="cycle")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "dealing", replacement="deal")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "debates", replacement="debate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<decisionmaking\\>|\\<decisions\\>|\\<deciding\\>|\\
\\<decided\\>)", replacement="decision")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<deepened\\>|\\<deepening\\>|\\<deeper\\>|\\<deeply\\
\\>|\\<deepen\\>)", replacement="deep")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<definitions\\>|\\<defining\\>|\\<defined\\>)",
replacement="define") #ok?
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "degrees", replacement="degree")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<demonstration\\>|\\<demonstrated\\>|\\<demonstrating\\
\\>|\\<demonstrates\\>)", replacement="demonstrate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<depending\\>|\\<dependence\\>|\\<dependent\\>|\\
\\<depends\\>)", replacement="depend")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<depiction\\>|\\<depicts\\>)", replacement="depict")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<descriptions\\>|\\<descriptively\\>|\\<description\\
\\>|\\<describing\\>|\\<described\\>|\\<describes\\>|\\<describe\\
\\>)", replacement="describe_ption")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<designing\\>|\\<designed\\>)", replacement="design")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "detailed", replacement="detail")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<detection\\>|\\<detecting\\>)", replacement="detect")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "determinate", replacement="determine")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<developmentally\\>|\\<developmental\\>|\\
\\<development\\>|\\<developing\\>|\\<developed\\>|\\<develops\\>)",
replacement="develop")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<johndewey\\>|\\<dewey1991p108\\>|\\<dewey1956pp47-48\\
\\>|\\<dewey1910\\>|\\<deweys\\>)", replacement="dewey")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<difference\\>|\\<differences\\>|\\<differ\\>)",
replacement="different")

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allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),

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pattern = "(\\<difficulty\\>|\\<dificult\\>)",
replacement="difficult")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<dimensions\\>)", replacement="dimension")

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<discipline\\>|\\<disciplines\\>)",
replacement="discipline")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<discoveries\\>|\\<discovering\\>|\\<discovery\\>)",
replacement="discover")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<discussed\\>|\\<discussing\\>|\\<discussions\\>|\\
\\<discussion\\>)", replacement="discuss")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<display\\>|\\<displaying\\>)", replacement="display")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<distinction\\>|\\<distinctions\\>)",
replacement="distinction")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<distinguish\\>|\\<distinguished\\>)",
replacement="distinguish")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<domain\\>|\\<domains\\>|\\<domainspecific\\>)",
replacement="domain")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<drawings\\>|\\<drawing\\>|\\<drawn\\>|\\<draws\\>)",
replacement="draw")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<earlier\\>|\\<early\\>)", replacement="early")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<easier\\>|\\<easily\\>)", replacement="easy")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<educated\\>|\\<educational\\>|\\<education\\>|\\
\\<educative\\>)", replacement="education")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<effectively\\>|\\<effectiveness\\>|\\<effective\\>|\\
\\<effected\\>|\\<effects\\>)", replacement="effect")

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<elaborated\\>|\\<elaborating\\>|\\<elaboration\\>)",
replacement="elaborate")

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<embedded\\>|\\<embedding\\>|\\<embeds\\>)",
replacement="embed")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<emergent\\>|\\<emerges\\>|\\<emerging\\>)",
replacement="emerge")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<emphasise\\>|\\<emphasized\\>|\\<emphasizes\\>|\\
\\<emphasizing\\>|\\<emphasis\\>)", replacement="emphasize")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<employed\\>|\\<employing\\>)", replacement="employ")

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allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<enables\\>|\\<enabling\\>", replacement="enable")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<encouraged encourages\\>|\\<encouraging\\>",
replacement="encourage")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<engaged engagement\\>|\\<engages\\>|\\<engaging\\>",
replacement="engage")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "ends", replacement="end")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<enhancements\\>|\\<enhancing\\>",
replacement="enhance")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<entities\\>", replacement="entity")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<environments\\>|\\<environments\\>",
replacement="environment")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<epistemologically\\>|\\<epistemological\\>",
replacement="epistemic")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<established\\>|\\<establishing\\>",
replacement="establish")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<evaluated\\>|\\<evaluating\\>|\\<evaluations\\>|\\
\\<evaluation\\>", replacement="evaluate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "eshachfried2005p327", replacement="eshachfried2005")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<examined\\>|\\<examines\\>|\\<examining\\>",
replacement="examine")

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<expansion\\>", replacement="expand")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<experiences\\>", replacement="experience") #\\
\\<experiential\\>|
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<experimental\\>|\\<experimentation\\>|\\
\\<experimenting\\>|\\<experimented\\>|\\<experiments\\>",
replacement="experiment")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<explained\\>|\\<explaining\\>|\\<explains\\>",
replacement="explain")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<explanations\\>|\\<explanatory\\>",
replacement="explanation")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<explicitly\\>", replacement="explicit")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<explorations\\>|\\<exploration\\>|\\<exploratory\\>|\\
\\<explored\\>|\\<exploring\\>|\\<explores\\>",
replacement="explore")

```



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allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<expressed\\>|\\<expressing\\>|\\<expression\\>)",
replacement="express")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<extended\\>|\\<extending\\>|\\<extends\\>)",
replacement="extend")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<facilitated\\>|\\<facilitates\\>|\\<facilitating\\>|\\<facilitators\\>|\\<facilitator\\>)", replacement="facilitate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<facts\\>|\\<factual\\>)", replacement="fact")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<familiar\\>|\\<family\\>)", replacement="family")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<features\\>)", replacement="feature")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<finding\\>|\\<findings\\>)", replacement="find")

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allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<floating\\>)", replacement="float")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<foci\\>|\\<focused\\>|\\<focuses\\>|\\<focusing\\>)",
replacement="focus")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<followed\\>|\\<following\\>)", replacement="follow")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<forms\\>)", replacement="form")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<formally\\>)", replacement="formal")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<formats\\>)", replacement="format")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<formulating\\>|\\<formulation\\>)",
replacement="formulate")

```

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<framed\\>|\\<frames\\>)", replacement="frame")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<frameworks\\>)", replacement="framework")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<freedom\\>)", replacement="free")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<french2004p147\\>)", replacement="french2004")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<fully\\>)", replacement="full")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<functioning\\>|\\<functions\\>)",
replacement="function")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<gained\\>|\\<gaining\\>)", replacement="gain")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<gathering\\>)", replacement="gather")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<generalization\\>|\\<generalizing\\>)",

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replacement="general")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<generated\\>|\\<generates\\>|\\<generatingd\\>|\\
\\<generating\\>)", replacement="generate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<get\\>)", replacement="get")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<gave\\>|\\<given\\>|\\<gives\\>|\\<giving\\>)",
replacement="give")

```

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<goal-orientated\\>|\\<goals\\>|\\<goaloriented\\>)",
replacement="goal")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<grades\\>)", replacement="grade")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<grain'\\>|\\<grained\\>)", replacement="grain")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<greater\\>|\\<greatly\\>)", replacement="great")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<grounds\\>)", replacement="grounded")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<grouped\\>|\\<groups\\>)", replacement="group")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<guidance\\>|\\<guided\\>|\\<guidelines\\>|\\<guides\\
\\>|\\<guiding\\>)", replacement="guide")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<higher\\>|\\<highly\\>)", replacement="high")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<hypotheses\\>|\\<hypothesizing\\>|\\<hypothesized\\
\\>)", replacement="hypothesis")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<ideas\\>)", replacement="idea")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<identifiable\\>|\\<identification\\>|\\<identified\\
\\>|\\<identifying\\>|\\<identifies\\>)", replacement="identify")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<implies\\>)", replacement="imply")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<importance\\>)", replacement="important")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<included\\>|\\<includes\\>|\\<including\\>|\\
\\<inclusion\\>)", replacement="include")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<incorporates\\>|\\<incorporation\\>)",
replacement="incorporate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<increased\\>|\\<increases\\>|\\<increasing\\>|\\
\\<increasingly\\>)", replacement="increase")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<independence\\>|\\<independently\\>)",
replacement="independent")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<indicated\\>|\\<indicates\\>)",

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```

replacement="indicate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<individual's\\>|\\<individuals\\>)",
replacement="individual")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<inferences\\>|\\<inference\\>|\\<inferring\\>)",
replacement="infer")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<influenced\\>|\\<influential\\>)",
replacement="influence")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<informative\\>|\\<informed\\>)",
replacement="inform")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<initially\\>)", replacement="initial")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<initiating\\>)", replacement="initiate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<inquirer\\>|\\<inquiries\\>|\\<inquiring\\>|\\
\\<inquirybased\\>)", replacement="inquiry")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<inspired\\>|\\<inspiring\\>)", replacement="inspire")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<instances\\>)", replacement="instance")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<instructional\\>|\\<instructionally\\>|\\
\\<instructions\\>)", replacement="instruction")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<integrated\\>|\\<integrating\\>|\\<integration\\>)",
replacement="integrate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<intentionally\\>|\\<intentions\\>|\\<intended\\>)",
replacement="intent")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<interacting\\>|\\<interactions\\>|\\<interact\\>|\\
\\<interacted\\>)", replacement="interaction")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<interpretively\\>|\\<interpretations\\>|\\
\\<interpretation\\>|\\<interpreted\\>|\\<interpreting\\>|\\
\\<interprets\\>)", replacement="interpret")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<introduced\\>|\\<introduces\\>|\\<introducing\\>|\\
\\<introduction\\>)", replacement="introduce")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<investigating\\>|\\<investigations\\>|\\
\\<investigation\\>|\\<investigated\\>)", replacement="investigate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<involved\\>|\\<involves\\>|\\<involving\\>)",
replacement="involve")

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<judging\\>|\\<judgments\\>)", replacement="judge")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<kindergarteners\\>|\\<kindergartners\\>)",

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replacement="kindergartener")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<kinds\\>", replacement="kind")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<knew\\>|\\<knowing\\>|\\<known\\>|\\<knows\\>|\\<knowledgeable\\>", replacement="know") #but not knowledge,
because different connotation.
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<labs\\>", replacement="laboratory")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<larger\\>", replacement="large")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<leading\\>|\\<leads\\>", replacement="lead")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<learn\\>|\\<learned\\>|\\<learning\\>",
replacement="learn")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<learners\\>|\\<learners'\\>", replacement="learner")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<lesser\\>", replacement="less")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<lessons\\>", replacement="lesson")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<levels\\>", replacement="level")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<listening\\>|\\<listens\\>", replacement="listen")
#allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<living-nonliving\\>|\\<living\\>", replacement=" ")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<locally\\>", replacement="local")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<located\\>|\\<locations\\>", replacement="location")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<logical\\>|\\<logically\\>", replacement="logical")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<longer\\>", replacement="longterm")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<looking\\>|\\<looked\\>", replacement="look")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<losing\\>", replacement="lose")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<major\\>|\\<majors\\>", replacement="major") #HMMM
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<makes\\>|\\<making\\>", replacement="make")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<manageable\\>", replacement="manage")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<manifest\\>|\\<manifested\\>",
replacement="manifest")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<manipulating\\>|\\<manipulate\\>",
replacement="manipulation")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<map\\>|\\<mapping\\>", replacement="map")

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allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<master\\>|\\<mastery\\>)", replacement="master")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<material\\>|\\<materials\\>)",
replacement="material")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<mathematically\\>|\\<mathematics\\>|\\<mathematic\\>|\\<math\\>)", replacement="mathematical")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<meaning'\\>|\\<meaningful\\>|\\<meaningfully\\>|\\<meanings\\>|\\<mean\\>)", replacement="meaning")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<measuring\\>|\\<measured\\>|\\<measurements\\>|\\<measure\\>)", replacement="measurement")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<members\\>|\\<membership\\>)", replacement="member")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<mental\\>|\\<mentally\\>)", replacement="mental")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<method\\>|\\<methods\\>)", replacement="method")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<midwest\\>|\\<midwestern\\>)", replacement="midwest")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<model\\>|\\<modelbased\\>|\\<modeling\\>|\\<modelling\\>|\\<models\\>)", replacement="model")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<modified\\>|\\<modify\\>|\\<modifying\\>)", replacement="modify")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<moment\\>|\\<moments\\>)", replacement="moment")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<movements\\>|\\<moves\\>|\\<moving\\>)", replacement="move")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<mutual\\>|\\<mutually\\>)", replacement="mutual")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<natural\\>|\\<naturally\\>)", replacement="natural")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<necessarily\\>)", replacement="necessary")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<needed\\>|\\<needs\\>)", replacement="need")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<newfound\\>)", replacement="new")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<normative\\>|\\<norms\\>)", replacement="norm")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<noted\\>|\\<notes\\>)", replacement="note")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<notions\\>)", replacement="notion")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<numbers\\>|\\<numeracy\\>|\\<numerical\\>)", replacement="number") #HMMM
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<objects\\>|\\<objects'\\>)", replacement="object")

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```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<observations\\>|\\<observational data\\>)",
replacement="observation")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<observed\\>|\\<observes\\>|\\<observing\\>)",
replacement="observe")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<obtaining\\>)", replacement="obtain")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<operates\\>)", replacement="operate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<opportunities\\>)", replacement="opportunity")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<organized\\>|\\<organizing\\>)",
replacement="organize")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<orientated\\>|\\<orientation\\>|\\<oriented\\>)",
replacement="orient")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<original\\>|\\<originally\\>)",
replacement="original")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<others'\\>)", replacement="others")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<outcomes\\>)", replacement="outcome")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<overarching\\>)", replacement="overall")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<participating\\>|\\<participation\\>|\\
\\<participatory\\>)", replacement="participate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<participants\\>)", replacement="participant")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<particularly\\>)", replacement="particular")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<partnerships\\>|\\<partnerships\\>|\\<partners\\>)",
replacement="partner")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<paths\\>|\\<pathway\\>)", replacement="path")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<patterns\\>)", replacement="pattern")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<pedagogical\\>|\\<pedagogically\\>)",
replacement="pedagogy")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<pedagogies\\>|\\<pedagogy\\>)",
replacement="pedagogy")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<perceive\\>|\\<perceived\\>)",
replacement="perceive")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<periods\\>)", replacement="period")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<personally\\>)", replacement="personal")

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allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<perspectives\\>)", replacement="perspective")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<phase1\\>|\\<phase2\\>|\\<phase3\\>|\\<phases\\>)",
replacement="phase")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<phenomena\\>)", replacement="phenomenon")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<photography\\>)", replacement="photo")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<phrased\\>|\\<phrases\\>)", replacement="phrase")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<physically\\>)", replacement="physical")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<pictures\\>)", replacement="picture")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<place\\>|\\<placed\\>|\\<places\\>)",
replacement="place")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<plans\\>|\\<planned\\>|\\<planning\\>)",
replacement="plan")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<plant\\>|\\<plants\\>)", replacement="plant")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<playbased\\>|\\<plays\\>)", replacement="play")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<pointed\\>|\\<points\\>)", replacement="point")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<posed\\>)", replacement="pose")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<powerfully\\>)", replacement="powerful")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<practiced\\>|\\<practices\\>|\\<practicum\\>)",
replacement="practice")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<predicted\\>|\\<predicting\\>|\\<prediction\\>|\\
\\<predictions\\>)", replacement="predict")
#allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<prediction\\>|\\<predictions\\>)",
replacement="predict")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<preparation\\>|\\<prepared\\>|\\<preparing\\>)",
replacement="prepare")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<preprimarylevel\\>|\\<kindergarten\\>)",
replacement="kindergarten")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<preschool\\>|\\<preschoolers\\>|\\<preschoolers'\\>|\\
\\<kindergartner\\>)", replacement="kindergartener")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<present\\>|\\<presented\\>|\\<presenting\\>|\\
\\<presents\\>|\\<presentation\\>)", replacement="present") #
different meanings possible?

```

```

#allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<primarily\\>|\\<firsthand\\>|\\<first\\>)",
replacement="prime")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<principles\\>)", replacement="principle")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<problems\\>)", replacement="problem")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<problembased\\>)", replacement="problemsolving")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<procedures\\>|\\<procedural\\>)",
replacement="procedure")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<process-ask\\>|\\<processes\\>)",
replacement="process")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<production\\>|\\<productive\\>|\\<producing\\>|\\
\\<produce\\>|\\<products\\>)", replacement="product") #HMMM
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<proficiency\\>|\\<proficient\\>)",
replacement="proficient")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<program\\>|\\<programme\\>)", replacement="program")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<progression\\>|\\<progressively\\>|\\<progressed\\>|\\
\\<progress\\>)", replacement="progression") #not as in learning
progression?
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<projectbased\\>|\\<projects\\>)",
replacement="project")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<promote\\>|\\<promotes\\>|\\<promotion\\>)",
replacement="promote")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<proposed\\>|\\<proposing\\>|\\<propos\\>)",
replacement="propose")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<provided\\>|\\<provides\\>|\\<providing\\>)",
replacement="provide")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<provocateurs\\>)", replacement="provocateur")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<putting\\>)", replacement="put")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<queries\\>)", replacement="query")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<questioning\\>|\\<questions\\>|\\<questioned\\>)",
replacement="question")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<raising\\>)", replacement="raise")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<ranging\\>)", replacement="range")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<reached\\>)", replacement="reach")

```



```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<realistic\\>|\\<reality\\>)", replacement="real")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<realworld\\>)", replacement="reallife")

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<recognition\\>|\\<recognizing\\>|\\<recognize\\>)",
replacement="recognise")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<recommendations\\>|\\<recommended\\>|\\<recommends\\>|\\>)",
replacement="recommend")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<reconstructing\\>)", replacement="reconstruct")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<recorded\\>|\\<recording\\>)", replacement="record")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<referring\\>|\\<refers\\>)", replacement="refer")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<refined\\>|\\<refining\\>)", replacement="refine")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<reflecting\\>|\\<reflections\\>|\\<reflection\\>|\\<reflects\\>|\\<reflected\\>)",
replacement="reflect")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<regarding\\>|\\<regarded\\>)", replacement="regard")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<reinforced\\>|\\<reinforcement\\>|\\<reinforcing\\>|\\>)",
replacement="reinforce")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<relating\\>|\\<related\\>|\\<relates\\>)",
replacement="relate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<relationbased\\>)", replacement="relation")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<relationship\\>|\\<relationships\\>|\\<relations\\>|\\>)",
replacement="relation")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<relevant\\>)", replacement="relevance")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<relies\\>|\\<relying\\>)", replacement="rely")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<repeatedly\\>|\\<repeated\\>)", replacement="repeat")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<reported\\>|\\<reporting\\>)", replacement="report")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<representing\\>|\\<representations\\>)",
replacement="represent")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<representational\\>)", replacement="representation")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<requires\\>|\\<requiring\\>|\\<requirement\\>|\\<requisite\\>)",
replacement="require")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<researchers\\>|\\<researcher\\>)",
replacement="researcher") #HMMM

```

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<researching\\>)", replacement="research") #HMMM

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<resources\\>)", replacement="resource")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<respected\\>)", replacement="respect")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<responds\\>|\\<response\\>)", replacement="respond")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<results\\>)", replacement="result")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<reviewed\\>|\\<reviewing\\>)", replacement="review")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<revising\\>)", replacement="revise")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<roles\\>)", replacement="role")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<scaffolded\\>|\\<scaffolding\\>|\\<scaffolds\\>)",
replacement="scaffold")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<schools\\>)", replacement="school")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<sciencerelated\\>|\\<sciences\\>|\\<scientific\\>|\\
\\<scientifically\\>)", replacement="science") #HMMMM
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<scientists\\>)", replacement="scientist")
#allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<second\\>|\\<secondary\\>)", replacement=" ") #HMMM
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<seeking\\>|\\<seeks\\>)", replacement="seek")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<seemed\\>|\\<seems\\>)", replacement="seem")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<selected\\>|\\<selecting\\>|\\<selectively\\>|\\
\\<selection\\>)", replacement="select")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<sensemaking\\>)", replacement="sense")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<sequencing\\>|\\<sequentially\\>|\\<sequential\\>)",
replacement="sequence")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<serves\\>|\\<serving\\>)", replacement="serve")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<sessions\\>)", replacement="session")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<sets\\>)", replacement="set")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<settings\\>)", replacement="setting")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<shaped\\>|\\<shaping\\>)", replacement="shape")

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<shifts\\>|\\<shifting\\>)", replacement="shift")

```

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<shows\\>|\\<showed\\>|\\<shown\\>|\\<showing\\>)",
replacement="show")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<similarities\\>|\\<similarly\\>)",
replacement="similar")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<simply\\>)", replacement="simple")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<simulated\\>|\\<simulations\\>|\\<simulate\\>)",
replacement="simulation")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<sinking\\>)", replacement="sink")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<situated\\>|\\<situating\\>)", replacement="situate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<situations\\>)", replacement="situation")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<skills\\>)", replacement="skill")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<smaller\\>)", replacement="small")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<solely\\>)", replacement="sole")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<solutions\\>)", replacement="solution")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<solving\\>)", replacement="solve")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<sources\\>)", replacement="source")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<specification\\>|\\<specified\\>|\\<specifying\\>)",
replacement="specify") #HMMM
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<stages\\>)", replacement="stage")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<started\\>|\\<starting\\>|\\<starts\\>)",
replacement="start")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<statement\\>|\\<statements\\>|\\<states\\>|\\<stated\\>|\\<stated\\>)",
replacement="state")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<step1\\>|\\<step2\\>|\\<step3\\>|\\<step4\\>|\\<steps\\>|\\<step\\>)",
replacement="phase") #HMMMM CHECK THIS
OUT!!
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<stimulated\\>|\\<stimulating\\>|\\<stimuli\\>)",
replacement="stimulate") #HMMM
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<stories\\>)", replacement="story")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<strongly\\>)", replacement="strong")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<structural\\>|\\<structured\\>|\\<structures\\>|\\<structuring\\>)",
replacement="structure")

```

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<studentcentered\\>|\\<studentdirected\\>)",
replacement="studentcentred")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<students\\>)", replacement="student")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<studied\\>|\\<studies\\>)", replacement="study")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<subjects\\>)", replacement="subject")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<subsequently\\>)", replacement="subsequent")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<successful\\>|\\<successfully\\>)",
replacement="success")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<suggested\\>)", replacement="suggest")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<summarized\\>|\\<summarizes\\>|\\<summarizing\\>|\\
\\<summary\\>)", replacement="summarize")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<supported\\>|\\<supporting\\>|\\<supports\\>|\\
\\<supportive\\>)", replacement="support")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<surrounding\\>|\\<surrounds\\>)",
replacement="surround")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<systematically\\>)", replacement="systematic")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<taken\\>|\\<takes\\>|\\<taking\\>|\\<took\\>)",
replacement="take")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<talked\\>|\\<talking\\>)", replacement="talk")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<targeted\\>|\\<targeting\\>|\\<targets\\>)",
replacement="target")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<tasks\\>)", replacement="task")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<coteacher\\>|\\<teacher's\\>|\\<teachers\\>|\\
\\<teaching\\>)", replacement="teacher")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<technological\\>|\\<technologies\\>)",
replacement="technology")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<terms\\>|\\<terminology\\>)", replacement="term")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<testing\\>|\\<tested\\>|\\<tests\\>)",
replacement="test")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<thoughts\\>)", replacement="thought")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<topics\\>|\\<topical\\>)", replacement="topic")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<tracked\\>|\\<tracking\\>)", replacement="track")

```

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<transformations\\>)", replacement="transformation")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<translated\\>|\\<translates\\>)",
replacement="translate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<type\\>|\\<types\\>)", replacement="type")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<typically\\>)", replacement="typical")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<understanding\\>|\\<understandings\\>|\\<understood\\>|\\>)", replacement="understand")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<units\\>)", replacement="unit")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<universityschool\\>)", replacement="university")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<unlikely\\>|\\<unlikely\\>)", replacement="unlikely")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<used\\>|\\<uses\\>|\\<using\\>)", replacement="use")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<varieties\\>)", replacement="variety")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<verbalization\\>|\\<verbally\\>)",
replacement="verbal")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<viewed\\>|\\<viewing\\>|\\<views\\>)",
replacement="view")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<way\\>|\\<ways\\>)", replacement="way")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<word\\>|\\<words\\>)", replacement="word")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<working\\>|\\<works\\>)", replacement="work")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<writing\\>|\\<writings\\>|\\<written\\>)",
replacement="write")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<yearold\\>|\\<years\\>)", replacement="year")

```

##Specific for empirical

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<abilities\\>)", replacement="ability")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<acorns\\>)", replacement="acorn")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<adaptation\\>|\\<adapted\\>)", replacement="adapt")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<adopted\\>|\\<adopts\\>)", replacement="adopt")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<advanced\\>)", replacement="complex")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<affecting\\>|\\<affects\\>)", replacement="affect")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),

```

```

pattern = "(\\<affordances\\>|\\<affords\\>)", replacement="afford")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<amounts\\>)", replacement="amount")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<animals\\>)", replacement="animal")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<ants\\>)", replacement="ant")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<eating\\>|\\<eaten\\>|\\<ate\\>)", replacement="eat")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<approached\\>)", replacement="approach")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<areas\\>)", replacement="area")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<artistic\\>|\\<artworks\\>|\\<artwork\\>|\\<arts\\>)", replacement="art")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<asked\\>)", replacement="ask")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<assessments\\>|\\<assessment\\>|\\<assessed\\>|\\<assesses\\>)", replacement="assess")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<assistance\\>)", replacement="assist")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<assuming\\>|\\<assumed\\>)", replacement="assume")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<attributions\\>|\\<attributes\\>)", replacement="attribute")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<bags\\>)", replacement="bag")

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<bands\\>)", replacement="band")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<beans\\>)", replacement="bean")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<bears\\>)", replacement="bear")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<began\\>|\\<begun\\>)", replacement="begin")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<behaviours\\>|\\<behaviour\\>|\\<behave\\>)", replacement="behavior")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<bigger\\>)", replacement="big")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<birds\\>)", replacement="bird")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<blocks\\>)", replacement="block")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<boards\\>)", replacement="board")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<boiling\\>|\\<boiled\\>)", replacement="boil")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<boxes\\>)", replacement="box")

```

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<boys\\>", replacement="boy")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<bringing\\>|\\<brought\\>", replacement="bring")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<broken\\>|\\<broke\\>", replacement="break")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<buckets\\>", replacement="bucket")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<building\\>|\\<build\\>", replacement="built")
#building not used as in 'house' but as the action of building
something
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<butterflies\\>", replacement="butterfly")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<called\\>", replacement="call")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<captured\\>", replacement="capture")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<capitalized\\>", replacement="capitalize")

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<cartoonish\\>|\\<cartoonlike\\>|\\<cartoons\\>",
replacement="cartoon")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<carvers\\>", replacement="carver")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<cases\\>", replacement="case")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<causal\\>", replacement="cause")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<centers\\>", replacement="center")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<checking\\>|\\<checked\\>", replacement="check")

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<chicks\\>", replacement="chick")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<clarifications\\>", replacement="clarification")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<clips\\>", replacement="clip")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<cleaning\\>", replacement="clean")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<closely\\>|\\<closeness\\>", replacement="close")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<clouds\\>", replacement="cloud")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<coding\\>|\\<codes\\>", replacement="code")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<collective\\>|\\<collaboration\\>|\\<collaborate\\>",
replacement="collaborative") # Is this ok?
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<collects\\>", replacement="collect")

```

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<colouring\\>|\\<coloured\\>|\\<coloring\\>|\\<colour\\>|\\<colored\\>|\\<colors\\>)", replacement="color") # Is this ok?
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<coming\\>)", replacement="come")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<comments\\>)", replacement="comment")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<communitys\\>)", replacement="community")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<compared\\>|\\<compares\\>)", replacement="compare")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<competencies\\>)", replacement="competence")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<compressing\\>|\\<compressed\\>)",
replacement="compress")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<computertablets\\>)", replacement="computer")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<containers\\>)", replacement="container")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<contextualize\\>|\\<contextually\\>|\\<contextual\\>|\\<contextensitive\\>)", replacement="contextual")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<continues\\>)", replacement="continue")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<contrasting\\>|\\<contrasted\\>)",
replacement="contrast")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<contributions\\>)", replacement="contribute") #Ok?
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<controlled\\>|\\<controls\\>)",
replacement="control")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<correspondence\\>|\\<corresponding\\>)",
replacement="correspond")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<counting\\>|\\<counts\\>)", replacement="count")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<countries\\>|\\<counts\\>)", replacement="country")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<covering\\>)", replacement="covered")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<cubes\\>)", replacement="cube")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<culturally\\>|\\<cultural\\>)",
replacement="culture")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<cups\\>)", replacement="cup")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<cutouts\\>)", replacement="cutout")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<debriefings\\>)", replacement="debrief")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),

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pattern = "(\\<demanding\\>)", replacement="demand")

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<details\\>)", replacement="detail")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<dialogic\\>)", replacement="dialogue")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<differentiating\\>)", replacement="differentiate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<dinosaurs\\>)", replacement="dinosaur")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<discursive\\>)", replacement="discourse")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<distributed\\>|\\<distributing\\>)",
replacement="distribute")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<dispersal\\>)", replacement="disperse")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<displayed\\>)", replacement="display")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<document\\>)", replacement="documenting") #In this
corpus these two forms relate to children documenting
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<drinks\\>)", replacement="drink")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<driving\\>|\\<driven\\>)", replacement="drive")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<drew\\>)", replacement="draw")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<drops\\>)", replacement="drop")#as in pellet, not the
verb
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<dynamically\\>)", replacement="dynamic")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<eagerness\\>|\\<eagerly\\>)", replacement="dynamic")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<earths\\>|\\<earthlets\\>)", replacement="earth")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<eggs\\>)", replacement="egg")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<electrical\\>|\\<electricity\\>)",
replacement="electric")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<elements\\>)", replacement="element")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<elicitation\\>|\\<elicited\\>|\\<eliciting\\>)",
replacement="elicit")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<ellie\\>)", replacement="study_child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<emerged\\>)", replacement="emerge")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<empirically\\>)", replacement="empirical")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),

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pattern = "(\\<enabled\\>)", replacement="enable")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<enactments\\>|\\<act\\>)", replacement="enactment")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<encouraged\\>)", replacement="encourage")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<ended\\>)", replacement="end")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<energy1\\>|\\<energy-a\\>)", replacement="energy")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<engagement\\>|\\<engaged\\>)", replacement="engage")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<enhanced\\>)", replacement="enhance")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<enquiry\\>)", replacement="inquiry")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<epistemology\\>)", replacement="epistemic")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<essentially\\>)", replacement="essential")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<evaporation\\>)", replacement="evaporate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<events\\>)", replacement="event")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<examples\\>)", replacement="example")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<excerpts\\>)", replacement="excerpt")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<existence\\>|\\<existing\\>)", replacement="exist")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<feeders\\>)", replacement="feeder")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<filip\\>)", replacement="study_child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<filling\\>|\\<filled\\>)", replacement="fill")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<finds\\>)", replacement="find")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<finally\\>)", replacement="final")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<fingerprints\\>)", replacement="fingerprint")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<firstgrade\\>)", replacement="primary")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<flew\\>)", replacement="fly")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<flowers\\>)", replacement="flower")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<follows\\>)", replacement="follow")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<foods\\>)", replacement="food")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<forces\\>)", replacement="force")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),

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pattern = "(\\<format\\>)", replacement="form")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<fostered\\>)", replacement="foster")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<fourphase\\>)", replacement="four phase")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<fivephase\\>)", replacement="five phase")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<fourth\\>)", replacement="four")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<freely\\>)", replacement="free")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<frequencies\\>)", replacement="frequency")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<frequently\\>)", replacement="frequent")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<frida\\>)", replacement="student_child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<functionality\\>)", replacement="function")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<gamelike\\>|\\<games\\>)", replacement="game")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<gardening\\>|\\<gardens\\>)", replacement="garden")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<gathered\\>)", replacement="gather")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<gauging\\>)", replacement="gauge")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<gauging\\>)", replacement="gauge")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<generally\\>|\\<generalized\\>)",
replacement="general")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<gets\\>)", replacement="get")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<ginas\\>|\\<gina\\>)", replacement="example_child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<girls\\>)", replacement="girl")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<got\\>)", replacement="get")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<gravitational\\>)", replacement="gravity")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<group-togroup\\>|\\<smallgroup\\>|\\<wholegroup\\>)",
replacement="group")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<growing\\>|\\<growth\\>)", replacement="grow")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<habitats\\>)", replacement="habitat")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<hairy\\>)", replacement="hair")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<hands\\>)", replacement="hand")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),

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pattern = "(\\<hanna\\>)", replacement="study_child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<hannah\\>)", replacement="study_teacher")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<happened\\>|\\<happening\\>|\\<happens\\>)",
replacement="happen")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<helped\\>|\\<helpful\\>|\\<helps\\>)",
replacement="help")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<holes\\>)", replacement="hole")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<homes\\>)", replacement="home")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<humans\\>)", replacement="human")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<illustration\\>|\\<illustrating\\>|\\<illustrates\\
\\>)", replacement="illustrate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<images\\>)", replacement="image")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<imagining\\>|\\<imaginary\\>)",
replacement="imagination")

```

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<implementation\\>|\\<implemented\\>|\\<implementing\\
\\>|\\<implements\\>)", replacement="implement")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<improved\\>)", replacement="improve")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<impulses\\>)", replacement="impuls")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<inclines\\>)", replacement="incline")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<indoors\\>)", replacement="indoor")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<ingredients\\>)", replacement="ingredient")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<intuitions\\>|\\<intuitively\\>)",
replacement="intuition")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<invited\\>|\\<invites\\>)", replacement="invite")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<invoked\\>)", replacement="invoke")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<issues\\>)", replacement="issue")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<items\\>)", replacement="item")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<journaling\\>|\\<journals\\>)",
replacement="journal")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<keeping\\>|\\<kept\\>)", replacement="keep")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),

```

```

pattern = "\\<largest\\>", replacement="large")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<larvae\\>", replacement="larvae")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<layered\\>|\\<layers\\>", replacement="layer")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<lead\\>|\\<led\\>", replacement="leadership")
#The issue of leaves, leaving, and left. In excerpts, forms of the
verbe "to leave" where changed to "leaving". Leaves as in plant
material was not changed. Left as in non-right was unchanged.
#This changes were done directly in excerpts after reading the
context.
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<lets\\>", replacement="let")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<lifted\\>|\\<lifting\\>", replacement="lift") #as in
the action of raising the potential energy of an object, not the
object of transportation
#light as in not heavy changed to non_heavy, light as physical
phenomenon kept, in light of -> in_light_of. Changed directly in
excerpts.
#like split into like (as likeness) and like (as an affective verb
-> like_affect)
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<likewise\\>", replacement="like")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<limited\\>|\\<limits\\>", replacement="limit")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<liquids\\>", replacement="liquid")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<long\\>", replacement="longterm")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<lower\\>", replacement="low")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<mapped\\>", replacement="map") #as in the action
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<maximally\\>", replacement="maximal") #interesting
use...
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<mealworms\\>", replacement="mealworm")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<mechanized\\>", replacement="mechanical")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<meetings\\>", replacement="meeting")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<melted\\>", replacement="melting")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<metacognitive\\>", replacement="metacognition")
#met as in had a meeting changed directly in excerpts.
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<methodological\\>", replacement="methodology")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<midjune\\>|\\<midjanuary\\>",
replacement="study_month")

```

```

#min as in minutes changes directly in excerpts. Always
[number]_minute, as in 20_minute
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<mixed\\>", replacement="mixing") #as in mixing
materials together.
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<moles\\>", replacement="mole") #as in the animal not
the number
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<motioning\\>", replacement="motioned")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<motivate\\>|\\<motivating\\>",
replacement="motivation")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<mounted\\>", replacement="mount") #as in mounting
something on a case
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<moved\\>|\\<movement\\>", replacement="move")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<movies\\>", replacement="movie")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<nearby\\>", replacement="near")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<nests\\>", replacement="nest")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<newtonian\\>", replacement="newton")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<noises\\>", replacement="noise")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<noticed\\>", replacement="notice")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<objectives\\>", replacement="objective")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<obtained\\>", replacement="obtain")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<occurred\\>|\\<occurs\\>", replacement="occur")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<offered\\>", replacement="offer")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<older\\>|\\<olds\\>", replacement="old")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<opened\\>", replacement="open")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<operating\\>", replacement="operate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<orders\\>", replacement="order") #as in putting
things in order
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<organising\\>|\\<organised\\>|\\<organisational\\>|\\
<organize\\>", replacement="organise")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<ornithologists\\>", replacement="ornithologist")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<outdoors\\>", replacement="outdoor")

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```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<painter\\>|\\<painting\\>", replacement="paint")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<pennies\\>", replacement="penny")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<performance\\>", replacement="perform") #as in doing
somehting for others to see.
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<petting\\>", replacement="pet")
#"physical science" -> physics, physical as related to physics ->
"physics". All other instances of "physical" kept. Changes done
directly in excerpts.
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<pieces\\>", replacement="piece")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<pigs\\>", replacement="pig")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<planting\\>", replacement="plant")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<pointing\\>", replacement="point")
#pose as in pose questions changed to ask in excerpt.
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<possibly\\>", replacement="possible")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<potentially\\>", replacement="potential")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<programs\\>", replacement="program")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<promoted\\>|\\<promoting\\>", replacement="promote")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<prompting\\>", replacement="prompt")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<purposes\\>", replacement="purpose")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<pushing\\>", replacement="push")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<puzzling\\>", replacement="puzzle")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<rains\\>|\\<rainfall\\>", replacement="rain")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<randomly\\>", replacement="random")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<ranged\\>", replacement="range")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<ratings\\>", replacement="rating")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<reactions\\>", replacement="react")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<readings\\>|\\<reading\\>|\\<read\\>",
replacement="read")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<readily\\>", replacement="ready")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<reasons\\>", replacement="reason")

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allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<recalling\\>", replacement="recall")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<received\\>", replacement="receiving")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<recognised\\>", replacement="recognise")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<records\\>", replacement="record")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<resonant\\|\\<resonated\\>", replacement="resonate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<respects\\>", replacement="respect")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<responding\\|\\<responded\\|\\<responds\\>",
replacement="respond")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<resulted\\>", replacement="result")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<returning\\>", replacement="return")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<revealed\\>", replacement="reveal")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<rocks\\>", replacement="rock")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<routes\\>", replacement="route")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<routines\\>", replacement="routine")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<safely\\>", replacement="safety")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<samples\\>", replacement="sample")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<sandy\\>", replacement="sand")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<saw\\>|\\<seeing\\>|\\<seen\\>", replacement="see")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<says\\>|\\<said\\>", replacement="say")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<scales\\>", replacement="scale")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<schooling\\>", replacement="school")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<seasonal\\>|\\<seasons\\>", replacement="season")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<sections\\>", replacement="section")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<seeds\\>", replacement="seed")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<senses\\>", replacement="sense")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<separated\\>|\\<seperately\\>",
replacement="separate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<sequences\\>", replacement="sequence")

```



```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<sat\\>|\\<setting\\>)", replacement="set") #as in the
act of setting stuff up
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<shapes\\>)", replacement="shape")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<sharable\\>|\\<sharing\\>|\\<shared\\>)",
replacement="share")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<shells\\>)", replacement="shell")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<significance\\>)", replacement="significant")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<sixth\\>)", replacement="six")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<slowmations\\>)", replacement="slowmation")
#small groups and small group changed to smallgroup directly in
excerpts.
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<smelling\\>|\\<smelly\\>)", replacement="smell")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<snails\\>)", replacement="snail")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<snowfall\\>)", replacement="snow")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<somethings\\>)", replacement="something")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<songs\\>)", replacement="song")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<sorted\\>)", replacement="sort")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<spanned\\>)", replacement="spans")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<specifically\\>)", replacement="specific")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<speeding\\>)", replacement="speed")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<spilled\\>)", replacement="spill")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<splits\\>)", replacement="split")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<spontaneously\\>)", replacement="spontaneous")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<spots\\>)", replacement="spot")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<squeezed\\>)", replacement="squeeze")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<standardize\\>|\\<standards\\>)",
replacement="standard")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<stereotypical\\>)", replacement="stereotype")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<stopped\\>)", replacement="stop")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),

```

```

pattern = "(\\<stored\\>)", replacement="store")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<strategies\\>|\\<strategic\\>)",
replacement="strategy")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<strengths\\>)", replacement="strength")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<stretching\\>|\\<stretched\\>)",
replacement="stretch")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<striped\\>)", replacement="stripes")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<striving\\>)", replacement="strive")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<suitability\\>)", replacement="suitable")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<survive\\>)", replacement="survival")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<stretching\\>|\\<stretched\\>)",
replacement="stretch")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<symbolic\\>|\\<symbols\\>)", replacement="symbol")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<table2\\>|\\<table1\\>)", replacement="table")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<teams\\>)", replacement="team")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<tells\\>)", replacement="tell")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<textbook\\>|\\<texts\\>)", replacement="text")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<things\\>)", replacement="thing")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<thinking\\>|\\<thinks\\>)", replacement="think")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<tools\\>)", replacement="tool")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<totally\\>)", replacement="total")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<towards\\>)", replacement="toward")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<toys\\>)", replacement="toy")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<tracing\\>)", replacement="trace")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<tracks\\>)", replacement="track")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<training\\>)", replacement="train")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<transformed\\>)", replacement="transform")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<transitioning\\>|\\<transitioned\\>)",
replacement="transition")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),

```

```

pattern = "(\\<triggered\\>)", replacement="triggers")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<trying\\>)", replacement="try")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<tubs\\>)", replacement="tub")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<turned\\>)", replacement="turn") #as in focused their
attention on, whereas "turns" relates to taking turns.
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<twisting\\>|\\<twisted\\>)", replacement="twist") #as
in the action of turning something, not "with a twist".
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<underlying\\>)", replacement="underlie")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<utilizing\\>|\\<utilized\\>)", replacement="utilize")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<valuable\\>|\\<valuing\\>|\\<valued\\>|\\<values\\
\\>)", replacement="value") #hmmm..
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<variables\\>)", replacement="variable") #as in
concept of "a variable" parameter
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<vignettes\\>)", replacement="vignette")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<vocabularies\\>)", replacement="vocabulary")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<went\\>)", replacement="go")
#whats changed to what is
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<walked\\>|\\<walks\\>|\\<walking\\>)",
replacement="walk") # as in either "to walk" and "a walk".
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<wanted\\>)", replacement="want")
#wasnt changed to was not in excerpt
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<watching\\>)", replacement="watch")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<weeks\\>|\\<weekly\\>)", replacement="week")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<watching\\>)", replacement="watch")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<wooden\\>)", replacement="wood")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<worked\\>)", replacement="work") #but not "workers"
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<worlds\\>)", replacement="world")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<younger\\>)", replacement="young")

```

#Splitting words. Since we removed hyphens, some words need to be split.

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),

```

```

pattern = "(\\<subtopic\\>|\\<subtopics\\>)", replacement="sub
topic")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<threephase\\>)", replacement="three phase")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<twophase\\>)", replacement="two phase")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<threeweek\\>)", replacement="three week")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<videotaped\\>)", replacement="video taped")
#theres (as in there's) changed to "there is" directly in excerpts

```

```

#Specific names -> function in study
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<james\\>)", replacement="example_child")
#example_child is a fictional child used in instructional materials.
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<tom\\>)", replacement="example_child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<john\\>)", replacement="example_child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<gina\\>)", replacement="example_child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<tony\\>)", replacement="example_child")

```

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<lilly\\>)", replacement="example_animal")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<thelmas\\>)", replacement="example_animal")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<jane\\>)", replacement="study_scientist") #a
rolemodel for children in the study??
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<peter\\>)", replacement="study_scientist")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<chris\\>)", replacement="study_scientist")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<johannah\\>)", replacement="study_child") #a child
observed and analysed in the study
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<lily\\>)", replacement="study_child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<lucy\\>)", replacement="study_child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<markus\\>)", replacement="study_child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<simon\\>)", replacement="study_child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<susie\\>|\\<susies\\>|\\<susieastheball\\>|\\<susie3\\
\\>)", replacement="study_child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\\<cora\\>)", replacement="study_teacher")

```

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<mrstreadwell\\>", replacement="study_teacher")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<mrscasey\\>", replacement="study_teacher")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<becky\\>", replacement="study_teacher")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<shane\\>", replacement="study_teacher")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<ppts\\>", replacement="study_teacher")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<pts\\>", replacement="study_teacher")

```

```

#Changed Child: and other instances of named or specific children
that appear in studies to "study_child".
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<wouassammeeschendran\\>", replacement="non-english-
sentence")

```

##SYNONYMS

```

allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<Theoretical\\>|\\<theories\\>|\\<theories\\>|\\
\\<theory\\>", replacement="theory")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<certain\\>", replacement="specific")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<elementary\\>", replacement="primary")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<constitue element\\>", replacement="phase")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<inquiry_based\\>|\\<inquirybased\\>|\\<inquiryframed\\
\\>|\\<inquiryoriented\\>", replacement="ibse")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<directed\\>|\\<directing\\>|\\<direct\\>|\\
\\<instructed\\>|\\<instruct\\>|\\<steer\\>)",
replacement="instruct_guide")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<curiosity\\>|\\<interesting\\>|\\<interests\\>|\\
\\<interests\\>|\\<interested\\>", replacement="interest")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<instructors\\>", replacement="educators")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<teacher trainer\\>|\\<pilot centre trainer\\>|\\<the
trainer\\>", replacement="teacher_trainer")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<kids\\>", replacement="child")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<likely\\>|\\<probably\\>", replacement="probable")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<lives\\>|\\<live\\>)", replacement="live_habitat")
#lives as in plural of life -> life.
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "\\<pretence\\>|\\<pretend\\>|\\<pretending\\>|\\

```

```

\<makebelieve\>|\<played\>|\<playing\>)", replacement="play")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<onus\>|\<responsibilities\>)",
replacement="responsibility")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<papers\>)", replacement="article") #papers in plural
only used as articles in excerpts.
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<photographing\>|\<photographer\>|\<photographed\>|\<photos\>|\<photo\>|\<pictogram\>|\<pictures\>)",
replacement="picture")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<playdough\>)", replacement="playdoh")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<prints\>)", replacement="print")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<previously\>|\<prior\>)", replacement="previous")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<immediately\>|\<promptly\>)",
replacement="immediate")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<pupils\>|\<learners\>)", replacement="pupil")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<reasoning\>)", replacement="thinking")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<schoolyard\>)", replacement="playground")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<sciencey\>)", replacement="sciencelike")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<book\>)", replacement="text")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<at times\>|\<at other times\>)",
replacement="sometimes")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<track\>|\<trace\>)", replacement="track_trace")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<tubs\>|\<bathtub\>)", replacement="tub")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<tv\>)", replacement="television")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<vs\>)", replacement="versus")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<secondgrade\>)", replacement="2ndgrade")
allTheoretical <- tm_map(allTheoretical, content_transformer(gsub),
pattern = "(\<first graders\>)", replacement="1stgrade")

```

#These words either provide no meaning or are used so many times that they obscure relevant signals.

```

wordstoremove<-
c(stopwords("english"),"can","also","although","may","maybe","moreov
er","mostly","onto","per se", "really","therefore","though","thus",

```

```
"xl011","xl021","xl051","xl071","xn011","xn031","xn051","xn071","xq0
11","xq031","xq041","xq051","xs021","xs091","xs111","xs121",
      "2013appendixfp10","20132014","1b","p234","p141")
```

```
#Cleaning up..
```

```
#allFilesx <- tm_map(allFilesx, removeWords, c("endoffile"))
allTheoretical<-tm_map(allTheoretical,stripWhitespace)
```

```
#Function to help make linguistic networks
#It returns an list of edges in a directed network
myWordNetwork <- function (txt,j.words) {
  # Clean data
  #remove capitalization
  #corpus.temp      <- tm_map(corpus, tolower)
  #Remove punctuations and other unnecessary things
  #corpus.removed.punc <- tm_map(corpus.temp, removePunctuation)
  #Remove numbers
  #corpus.removed.numb <- tm_map(corpus.removed.punc,
removeNumbers)
  #Remove Whitespaces
  #corpus.removed.white <- tm_map(corpus.removed.punc,
stripWhitespace)
  #corpus            <- Corpus(DataframeSource(data.frame(data)))

  #prepare for stemming (language is english, but TM has a package
for other
  #languages)
  #corpus.temp <- corpus.removed.white
  #corpus.copy  <- corpus.temp
  #corpus.temp  <- tm_map(corpus.temp, stemDocument, language =
language)
  #corpus.final <- tm_map(corpus.temp, stemCompletion,
#               dictionary = corpus.copy)
  #corpus.final<-corpus.temp
  #Prepare to remove "stopwords" such as "A", "The", e.t.c.
  # keep "declarative words"
  #my.stopwords <- stopwords("english")
  #my.stopwords <- my.stopwords[!(my.stopwords %in% j.words)]
  #Remove stopwrods
  #corpus.crop <-
tm_map(corpus.removed.white,removeWords,c(my.stopwords))

  # Create edge list for export
  edge.list <-strsplit(as.matrix(txt), split = " ")[[1]]
  #Remove unnecessary
  #edge.list<-as.matrix(corpus.final[[1]])
  #edge.list <- edge.list[edge.list!=""]
  #edge.list<-strsplit(edge.list,split=" ")
```

```

# index of "declarative words" (the -1 is because we're removing
first and
# last word to make it into a word-network
node.num <- length(edge.list[!(edge.list %in% j.words)]) - 1
#Create matrix to be exported
export.edge.list <- array("",dim=c(node.num,2))
#Set column names as per Gephi requirements
#colnames(export.edge.list) <- c("Source","Target","Label")
# Put source word except the "joining words into the matrix to be
exported
export.edge.list[,1] <- edge.list[!(edge.list %in% j.words)][-
length(edge.list[!(edge.list %in% j.words)])]
# put the target word except the "joining words into the matrix to
be exported
export.edge.list[,2] <- edge.list[!(edge.list %in% j.words)][-1]

#Go through the joining words and put them in
# for(i in j.words) {
#   for (j in which(edge.list %in% i)) {
#     export.edge.list[j - sum(!which(edge.list %in% j.words) > j),
3] <- i
#   }
# }
return(export.edge.list)
}
#Applying the function to each excerpt

edgelistsTheoretical<-
lapply(allTheoretical,myWordNetwork,j.words=wordstoremove)
graphsTheoretical<-list()
for (i in 1:35){
  graphsTheoretical[[i]]<-
graph.edgelist(edgelistsTheoretical[[i]],directed=T)
}

#Bind all excerpts together to a single edge list

allEdgeTheoretical<-
rbind(edgelistsTheoretical[[1]],edgelistsTheoretical[[2]],edgelistsTheoretical[[3]],edgelistsTheoretical[[4]],edgelistsTheoretical[[5]],edgelistsTheoretical[[6]],edgelistsTheoretical[[7]],edgelistsTheoretical[[8]],edgelistsTheoretical[[9]],edgelistsTheoretical[[10]],

edgelistsTheoretical[[11]],edgelistsTheoretical[[12]],edgelistsTheoretical[[13]],edgelistsTheoretical[[14]],edgelistsTheoretical[[15]],edgelistsTheoretical[[16]],edgelistsTheoretical[[17]],edgelistsTheoretical[[18]],edgelistsTheoretical[[19]],edgelistsTheoretical[[20]],

edgelistsTheoretical[[21]],edgelistsTheoretical[[22]],edgelistsTheoretical[[23]],edgelistsTheoretical[[24]],edgelistsTheoretical[[25]],edgelistsTheoretical[[26]],edgelistsTheoretical[[27]],edgelistsTheoretical[[28]],edgelistsTheoretical[[29]],edgelistsTheoretical[[30]],

edgelistsTheoretical[[31]],edgelistsTheoretical[[32]],edgelistsTheoretical[[33]],edgelistsTheoretical[[34]],edgelistsTheoretical[[35]])

```



```
etical[[33]],edgelistsTheoretical[[34]],edgelistsTheoretical[[35]])
```

```
#make separate networks for each article. Not used in manuscript
articlesT<-lapply(edgelistsTheoretical,graph.edgelist,directed=T)
for (i in 1:length(articlesT)){
  E(articlesT[[i]])$weight<-1
  articlesT[[i]]<-simplify(articlesT[[i]],edge.attr.comb="sum")
  articlesT[[i]]<-
delete.vertices(articlesT[[i]],which(V(articlesT[[i]])
$name=="break"))
}
```

```
article01T<-graph.edgelist(edgelistsTheoretical[[1]],directed=T)
article02T<-graph.edgelist(edgelistsTheoretical[[2]],directed=T)
article03T<-graph.edgelist(edgelistsTheoretical[[3]],directed=T)
article04T<-graph.edgelist(edgelistsTheoretical[[4]],directed=T)
article05T<-graph.edgelist(edgelistsTheoretical[[5]],directed=T)
article06T<-graph.edgelist(edgelistsTheoretical[[6]],directed=T)
article07T<-graph.edgelist(edgelistsTheoretical[[7]],directed=T)
article08T<-graph.edgelist(edgelistsTheoretical[[8]],directed=T)
article09T<-graph.edgelist(edgelistsTheoretical[[9]],directed=T)
article10T<-graph.edgelist(edgelistsTheoretical[[10]],directed=T)
article11T<-graph.edgelist(edgelistsTheoretical[[11]],directed=T)
article12T<-graph.edgelist(edgelistsTheoretical[[12]],directed=T)
article13T<-graph.edgelist(edgelistsTheoretical[[13]],directed=T)
article14T<-graph.edgelist(edgelistsTheoretical[[14]],directed=T)
article15T<-graph.edgelist(edgelistsTheoretical[[15]],directed=T)
article16T<-graph.edgelist(edgelistsTheoretical[[16]],directed=T)
article17T<-graph.edgelist(edgelistsTheoretical[[17]],directed=T)
article18T<-graph.edgelist(edgelistsTheoretical[[18]],directed=T)
article19T<-graph.edgelist(edgelistsTheoretical[[19]],directed=T)
article20T<-graph.edgelist(edgelistsTheoretical[[20]],directed=T)
article21T<-graph.edgelist(edgelistsTheoretical[[21]],directed=T)
article22T<-graph.edgelist(edgelistsTheoretical[[22]],directed=T)
article23T<-graph.edgelist(edgelistsTheoretical[[23]],directed=T)
article24T<-graph.edgelist(edgelistsTheoretical[[24]],directed=T)
article25T<-graph.edgelist(edgelistsTheoretical[[25]],directed=T)
article26T<-graph.edgelist(edgelistsTheoretical[[26]],directed=T)
article27T<-graph.edgelist(edgelistsTheoretical[[27]],directed=T)
article28T<-graph.edgelist(edgelistsTheoretical[[28]],directed=T)
article29T<-graph.edgelist(edgelistsTheoretical[[29]],directed=T)
article30T<-graph.edgelist(edgelistsTheoretical[[30]],directed=T)
article31T<-graph.edgelist(edgelistsTheoretical[[31]],directed=T)
article32T<-graph.edgelist(edgelistsTheoretical[[32]],directed=T)
article33T<-graph.edgelist(edgelistsTheoretical[[33]],directed=T)
article34T<-graph.edgelist(edgelistsTheoretical[[34]],directed=T)
article35T<-graph.edgelist(edgelistsTheoretical[[35]],directed=T)
#make combined network
```

```
allNetTheoretical<-graph.edgelist(allEdgeTheoretical,directed=T)
E(allNetTheoretical)$weight<-1
allNetTheoretical<-delete.vertices(allNetTheoretical,v =
which(V(allNetTheoretical)$name=="break"))
```

```
allNetTheoretical<-  
simplify(allNetTheoretical,remove.multiple=T,edge.attr.comb=list(wei  
ght="sum"))  
prT<-page.rank(allNetTheoretical)  
V(allNetTheoretical)$pr<-prT$vector  
sort(prT$vector,decreasing = T)[1:10]  
fgT<-fastgreedy.community(as.undirected(allNetTheoretical))  
write.csv(V(allNetTheoretical)$name,"listNodesTheoretical.csv")
```