



# New Features in Wikiglass, A Learning Analytic Tool for Visualizing Collaborative Work on Wikis

Xiao Hu<sup>1</sup>

Chengrui Yang<sup>2</sup>

Chen Qiao<sup>1</sup>

Xiaoyu Lu<sup>2</sup>

Sam K.W. Chu<sup>1</sup>

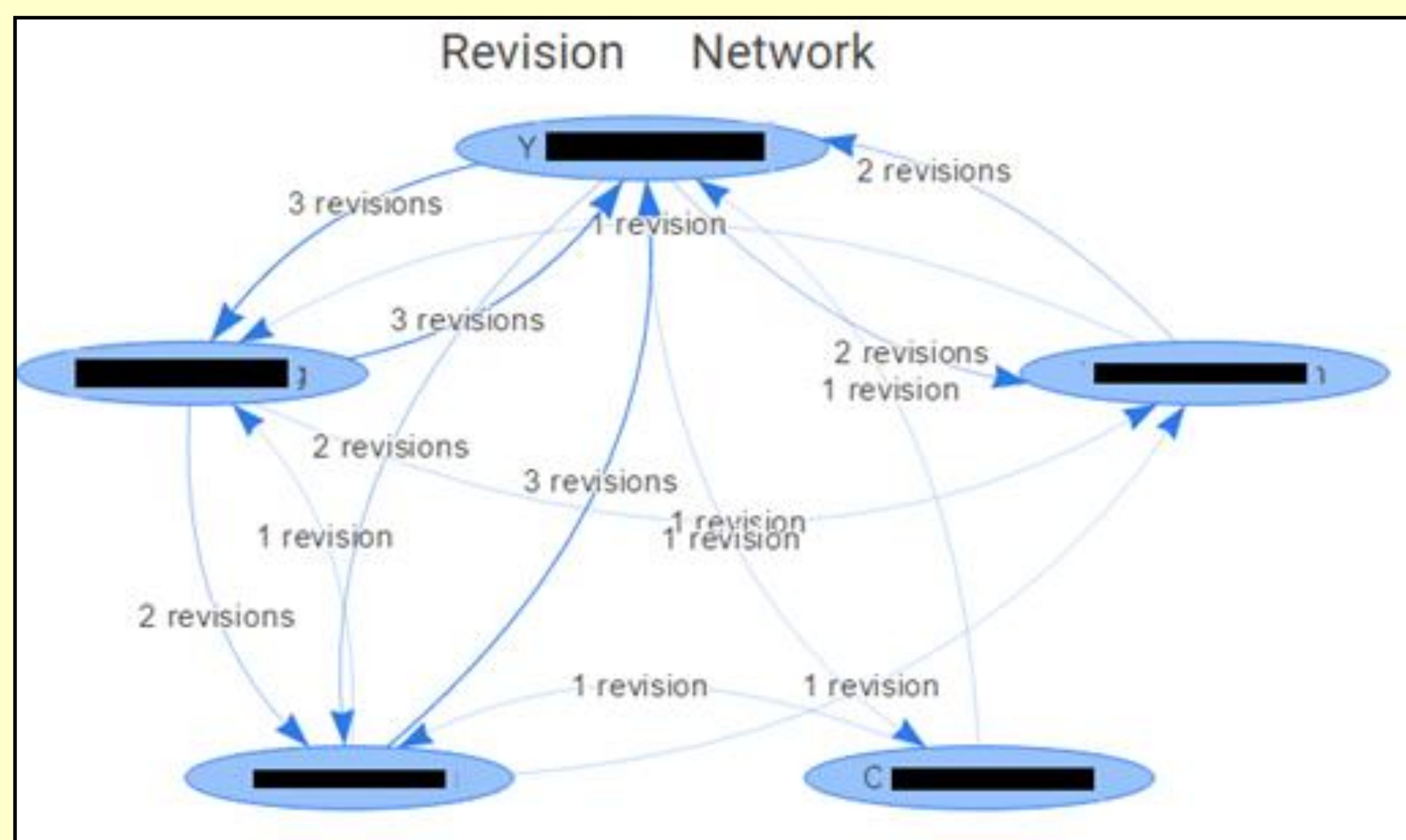
<sup>1</sup>Faculty of Education    <sup>2</sup>Department of Computer Science  
The University of Hong Kong

## Wikiglass: A Learning Analytic Tool

- Supporting **secondary and primary** teachers and students to monitor student group **collaborations** on **Wikis**
- Visualizing statistics of student **contributions** and **progress**
- Supporting **Chinese text** processing
- Two visualization modes: **Statistics & Timeline**
- Participatory Design**: new features suggested by teachers

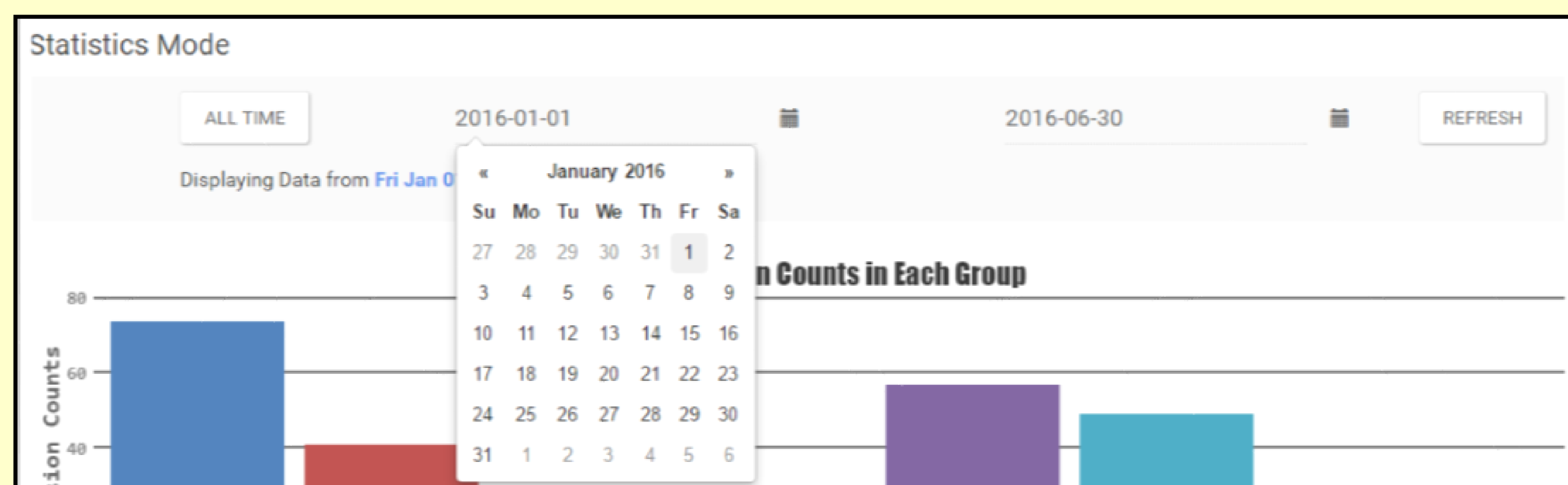
## Revision Network

- Reveal **collaborative interactions** among students
- Network is visualized based on **page revision histories** in a Wiki
- Identify **active** and **inactive** students



## Flexible Date Selection

- Flexibility of date range selection for examining student contributions



## Level of Thinking Orders

- Quality indicators** of student contributions
- Detect **levels of thinking order** from students' writings on Wiki

### Framework of Thinking Orders

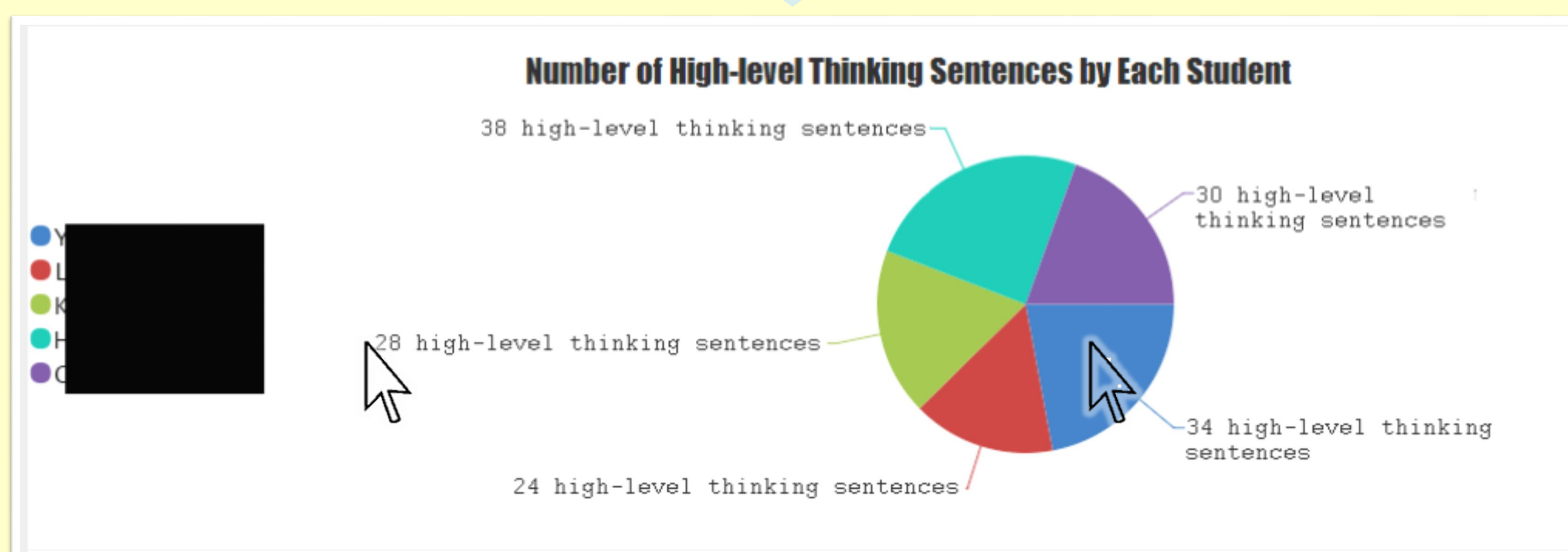
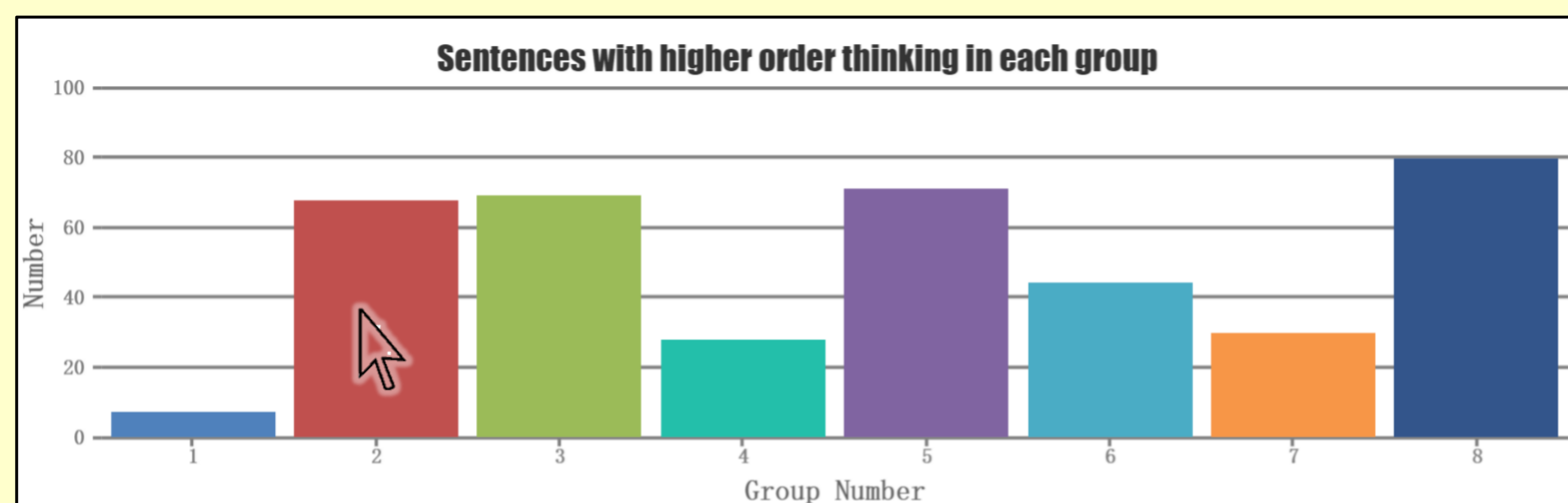
Level	Bloom's Taxonomy	Purposes of writing
High	Evaluation, Synthesis	Reasoning, Arguing, Evaluating, ...
Medium	Analysis, Application	Data interpretation, Comparison
Low	Comprehension, Knowledge	Definition, Information, description, ...

## Thinking Order Detection and Visualization

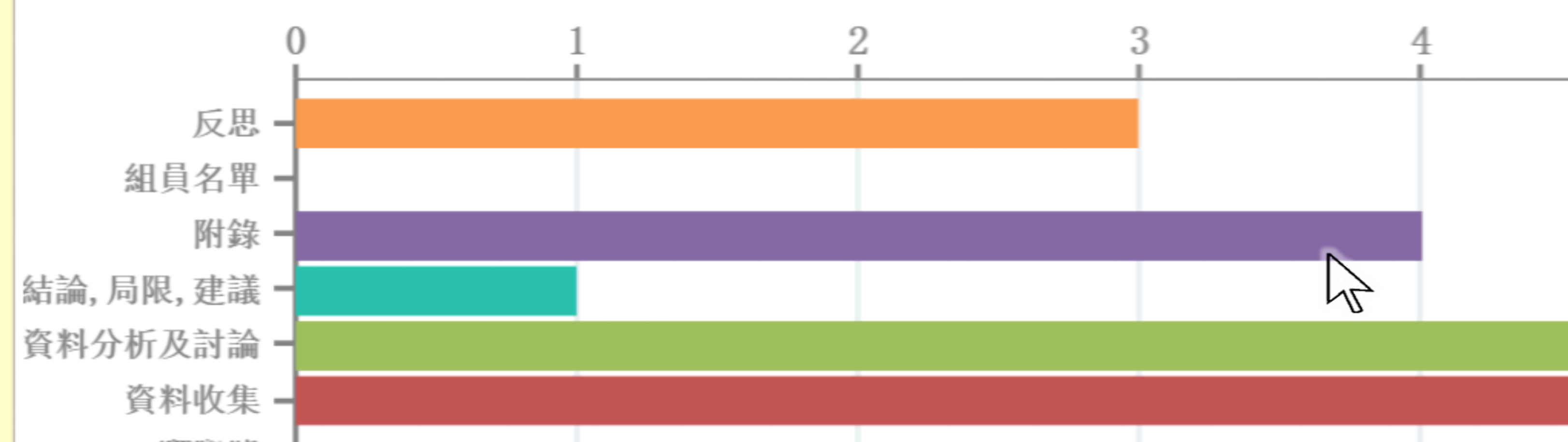
### Automated Text Categorization



### Visualizing Thinking Orders



### Number of higher order thinking sentences in each page



Higher order thinking		
Page	Sentence	Operation
資料分析及討論	小結從以上圖表可見，受訪同學中各有約一半曾在[ ]就讀精英班，當中亦約有一半（即總數約25%）接受了3年的精英班制度，反映了精英班制度在[ ]的普及，以及普遍就讀精英班的同學太多會整個初中都在精英班中度過。	LOW MEDIUM
結論, 局限, 建議	經問卷調查後發現，[ ]推行精英班的情況十分普遍，一半的問卷受訪者皆有受過精英班教育，當中46%的人就讀了三年精英班，可見普遍受訪者初中都在精英班中度過。	LOW MEDIUM
結論, 局限, 建議	最後，本組贊成[ ]繼續推行精英班制度，因為制度推行至今成效顯著，為同學製造一個合適的學習氣氛，令普遍精英班學生都能在考試測驗中取得好成績，而其他學生亦會為升讀精英而努力。	LOW MEDIUM

## Ongoing Work

- Being used in two secondary schools in Hong Kong
- 602 students and 11 teachers
- Evaluation: user **surveys, interviews** and **system log analysis**
- Future plans: evaluating efficacy of Wikiglass in **primary schools**