

# Comparative analysis of universal library classification: The Dewey Decimal Classification and the Korean Decimal Classification (Poster)

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## Abstract

- As the *Korean Decimal Classification (KDC)* was independently developed as the Korean national library classification using the basis of the *Dewey Decimal Classification (DDC)* principles, Korean culture appears in the KDC as a proper reflection of cultural warrant. At the same time, the KDC also inherits some cultural features of the DDC. In the KDC's adaptation of the DDC, it either aligns with the DDC or reflects specific aspects of Korean culture.
- These interactions between the two KOSs and inherited cultural features call for inquiry into an **intercultural warrant**. Thus, this study will examine the adaptation of a popular classification to accommodate a local culture when two different cultural warrants merge into an intercultural warrant. The study, therefore, will answer the following question: "What are the changes from the KDC's adaptation of the DDC in view of its intercultural warrant?"
- This study aims at examining the influences of society and culture on the KDC's adaptation of the DDC. Thus, the analysis will focus on the changes resulting from the meeting of the two cultures. The study will take a **comparative** approach and start with a quantitative comparison of the KDC and the DDC to **measure the degrees of variation** between them by main class.

## Background

- Social and cultural influences in KO
- Conceptual study**  
The importance of epistemology and contextuality in KO systems
- Empirical study**  
Examined the conceptual changes of a particular KOS which proved empirically the social influences in organizing knowledge



- A national library classification for South Korea, the KDC is an example of adaptation of the DDC in view of a different sociocultural context. Because of the American influence on the development of Korean librarianship in the post-Korean War period, the KDC follows most of the fundamental principles and features of the DDC. Despite its **DDC-like characteristics**, the KDC has some classes, tables, and numbers that are **distinguishable from their counterparts** in the DDC. For example, the KDC had a major revision in structure of main class and a creation of a new table for religions to meet local needs (Oh, 2012).

## Objectives & Methods

- The objective of the analysis is to **compare the knowledge structures of the two classifications**, in terms of the quantity of class numbers that represent concepts and their relationships in each of the individual main classes.
- Through the comparison, the KDC will be examined to see its similarities to and differences from the DDC.
- Analyzing the populations of the KDC and the DDC classes, by size, composition, and distribution, will find the differences in a macrocosmic view.
- The analysis is expected to show empirical evidence of the KDC's adaptation of the DDC.

- Methods**
- With the help from Online Computer Library Center (OCLC), the owner of the DDC, Obtained the datasets containing the electronic records representing individual DDC class numbers
- Obtained the electronic datasets containing records representing individual class numbers used in a recent study of the KDC (Jeon 2015)
- Only compared **DDC23** and **KDC6**, the most recent editions, in this study, and included counted classification numbers by the three integer
- Language of the data set for the KDC6 is Korean, so referred English captions provided in the paper copies of the KDC editions

## Data

DDC 23			KDC 6		
# of 3-integer class	Subjects	Class	Subjects	Class	# of 3-integer class
777	General works, Computer science and Information	000	General works (& Computer science and Information)	000	1053
692	Philosophy and psychology	100	Philosophy (& psychology)	100	1264
1989	Religion	200	Religion	200	1304
4557	Social sciences	300	Social sciences	300	3398
516	Language	400	Natural sciences	400	4547
1176	Pure Science	500	Technology & engineering	500	9296
4800	Technology	600	Arts (& recreation)	600	1904
2296	Arts & recreation	700	Language	700	594
515	Literature	800	Literature	800	581
3858	History & geography	900	History (& geography)	900	1612

## Results

- The DDC exhibit larger variations of the quantities of class numbers among the recent three editions than the KDC.

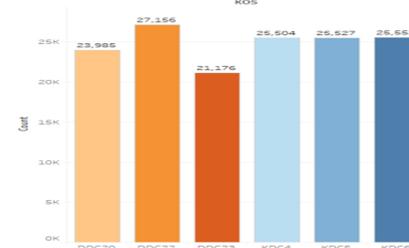


Figure 1. Quantities of the collected editions of the KDC (4, 5, & 6) and the DDC (20, 22, & 23)

- Changes of main classes among the recent editions are more varied in the DDC

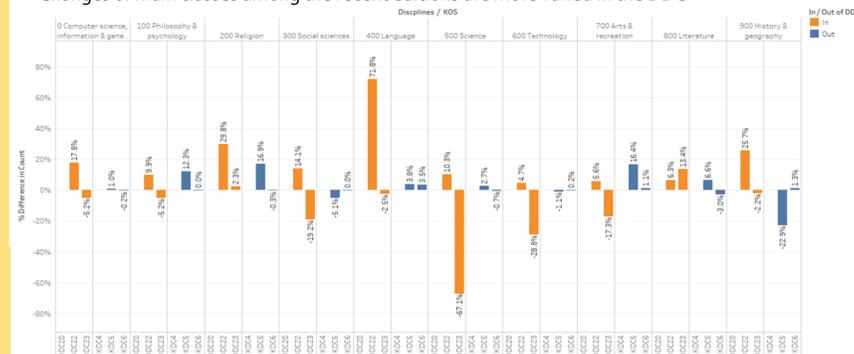


Figure 2. Difference percentages of the recent editions of the DDC and the KDC by disciplines

- Social science take 21% of the DDC 20, 21% of the DDC 22, and 22% of the DDC 23. While, 14% of the KDC 4, 13% of the KDC 5, and 13% of the KDC 6
- Differences between the DDC and the KDC range from 7% to 9%.

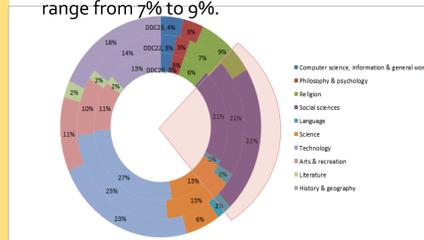


Figure 3. Percentages of disciplines: DDC 20-22-23

- Technology takes 27% of the DDC 20, 25% of the DDC 22, and 23% of the DDC 23. While, 37% of the KDC 4, 36% of the KDC 5, and 37% of the KDC 6
- Differences between the DDC and the KDC range from 10% to 14%.

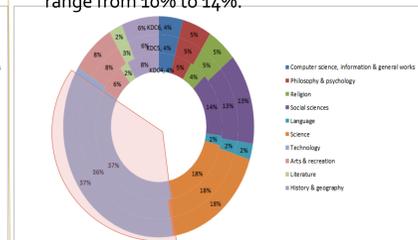


Figure 4. Percentages of disciplines: KDC 4-5-6

## Results

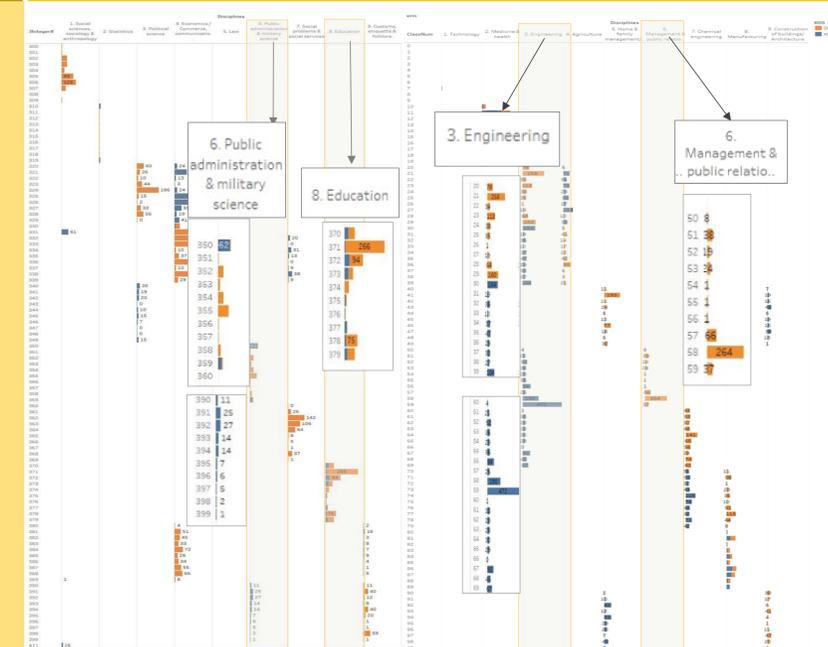


Figure 5. Distributions of sub-classes (social science) of the DDC 23 and the KDC 6 in size and location  
Figure 6. Distributions of sub-classes (Technology) of the DDC 23 and the KDC 6 in size and location

- Social science & Technology main classes of the **KDC6** and the **DDC23** were compared. The above figure 3 & 4 shows all three integer numbers in each class and how they are distributed by sub-classes.
- The 10 sub-classes were integrated into 9 sub-classes in matching the sub-disciplines (e.g. Economics and Commerce in the DDC23 were integrated, while Public administration and military science of the KDC 6 were integrated).
- The sub-classes had a little difference in size and location between two classifications, and those are visualized in figure 5..& 6
- In Social science (300 and both in the KDC6 & the DDC 23), except for the three sub-classes - 1. Social sciences, sociology, & anthropology, 2. Statistics, 8. Education, other six sub-classes were in different locations
- In Technology (600 in the DDC 23 & 500 in the KDC6), only two subclasses - 1. Technology & 2. Medicine & health were in a same order.

## Conclusions

- Smiraglia, Scharnhorst, Salah, and Gao (2013) suggested that the application of a quantitative approach and visualization to classification research permits **observation of changes in classification** such as size, composition, growth, and distribution. Thus, comparing the compositions of the main classes and distributions of concepts in the KDC and DDC will disclose the differences in their knowledge structures empirically.
- In this phase of quantitative analysis & visualizing techniques, I could analyze data descriptively so as to generate **empirical evidence leading to interpretation**.
- Inquiry for intercultural warrant

Cultural warrant	Intercultural warrant	Ethical warrant
Recognize plural sociocultural views	How plural views are conflicted or harmonized	Take actions protecting the suppressed by the conflicts