

370 Education: Primary subjects and levels of education
January 14, 2010

For several years, we have been studying improvements to 370 Education in the Dewey Decimal Classification (DDC) system to make the schedule a more useful general framework for the organization of education in a global context. We presented our initial plan of study in October 2007 to the Decimal Classification Editorial Policy Committee (EPC) in EPC Exhibit 128-22. This paper addresses provisions for specific subjects in elementary education in 372.3-372.8, and the treatment of levels of education in 370. The work in this report builds on research and proposals presented in EPC exhibits 128-22, 130-21.1, 131-19.1, and 132-17.1; reports issued by the European DDC Users' Group (EDUG) 370 Education Working Group in 2008 (EPC exhibits 129-19 and 130-21.2) and 2009 (EPC exhibits 131-19.2 and 132-17.2); and recommendations from EPC and other groups. Some key earlier documents are attached to this paper; reviewers may request additional documents.

We plan to put forth a fully revised 370 Education schedule at EPC Meeting 133 in June 2010. The revisions proposed in this exhibit are still preliminary, and subject to further development and review. We are seeking comments on the proposed revisions and open questions by February 27, 2010. Please address your comments to Joan S. Mitchell, Editor in Chief, DDC, mitchelj@oclc.org. You may also mail or fax your comments to my attention at the following address:

Joan S. Mitchell
Editor in Chief
Dewey Decimal Classification
OCLC Online Computer Library Center, Inc.
6565 Kilgour Place
Dublin, OH 43017-3395
1-614-718-7621 (fax)

Attachments:

Appendix I (pages 18-57)

EPC Exhibit 132-17.1 Discussion Paper for EDUG 370 WG Meeting at IFLA

(Note: This document references and includes EPC exhibits 130-21.1 and 130-21.2 in an appendix to the discussion paper)

Appendix II (pages 58-72)

EPC Exhibit 132-17.2 EDUG 370 Education Working Group (Progress report)

372.3-372.8 Elementary education in specific subjects

372.3 Computers, science, technology, health

At Meeting 131, EPC discussed the recommendations of the EDUG 370 Working Group on selected changes to 372.3-372.8. In addition to reviewing the report of the working group (EPC Exhibit 131-19.2), EPC considered a preliminary development based on the group's recommendations (EPC Exhibit 131-19.1). EPC was generally favorable to the changes proposed in the latter exhibit, but requested reconsideration of the revised caption at 372.3 and the proposed placement of interdisciplinary studies under that number versus the continued implicit provision for the topic under 372.19. The report received from the EDUG working group is inconclusive on this matter (see pages 59-60 in EPC 132-17.2 in appendix II). We have left the provision in place, but have inserted the terminology for interdisciplinary studies found under 001 Knowledge: "discussion of ideas from many fields, interdisciplinary approach to knowledge." At Meeting 132, EPC questioned the proposed use of "general works" in the caption at 372.3. On further consideration, we have removed "general works" and added "knowledge" to the caption.

Question 1: What are your reactions to the placement of interdisciplinary approach to knowledge at 372.3, and the terminology used in the caption and notes at 372.3?

372.3 ~~Computers,~~ Knowledge, computer science, library and information sciences,
science, technology, ~~health~~

Including discussion of ideas from many fields, interdisciplinary approach to knowledge

Class interdisciplinary approach to knowledge with a focus on a specific subject with the subject, e.g., environmental studies with components of civics and geography 372.357, writing across the curriculum 372.623

Under 372.34, EPC recommended replacing “computer literacy” with “digital literacy.” EPC also recommended adding a note under 372.358 to make it clear that 372.358 covers technology parallel to the topics provided in 600 Technology (Applied sciences). The EDUG report contains a concern from Biblioteca Nazionale Centrale di Firenze (BNCF) about the abandonment of “computer literacy,” but working group members in attendance at the meeting in Florence were generally supportive of the terminology changes.

Question 2: What are your reactions to the new terminology in the class-here note?

372.34 *~~Computers~~ Computer science; library and information sciences

Subdivisions are added for any or all topics in heading

Class here ~~computer literacy~~ digital literacy, information literacy

Class use of computers as a method of instruction in 372.1334; class use of computers as a method of instruction in a specific subject with the subject in 372.3-372.8, plus notation 044 from table under 372.3-372.8

Minor changes have been proposed to 372.35 Science and technology and have been received favorably by EPC and reviewers to date.

Question 3: Do you have any additional comments on 372.35?

372.35 *Science and technology

~~Including metric system~~

Subdivisions are added for science and technology together, for science alone

~~Class computers in 372.34~~

For mathematics, see 372.7

372.357 *Nature study

Class here environmental studies

372.358 *Technology (Applied sciences)

Including robots

Class here industrial arts

For ~~computers~~, see 372.34; for personal health and safety, home and family management ~~economies~~, see 372.8237; for physical education, see 372.86

See also 372.5 for manual arts

Our proposal to relocate home and family management has been received favorably by EPC and reviewers to date. In the development below we have introduced the topic “life skills” in a class-here note to address one shortcoming in 372.37 noted by reviewers—the lack of a provision to cover all aspects of everyday life skills including basic financial skills.

Question 4: Does the new provision for life skills at 372.37 plus the provisions throughout the 372.37 development cover the variety of topics taught at the primary level to develop competencies in everyday living?

372.37 *Personal health and safety; social skills

Including comprehensive works on home and family management [formerly 372.82]

Class here life skills

Subdivisions are added for personal health and safety, social skills together; for personal health and safety together; for personal health alone

Class food in 372.373; class social skills in 372.374

For sewing, see 372.54; for physical education, see 372.86

372.372 *Sex education

Including human reproductive physiology

~~Class family life education in 372.82~~

- 372.373 *Nutrition and food
 Including cooking
 Subdivisions are added for either or both topics in heading
- 372.374 *Social skills
 Class here family life, interpersonal relationships
- 372.378 *Substance abuse
-

372.4 Reading

As noted in EPC Exhibit 130-21.1, an expansion for reading was introduced in DDC 21. Unfortunately, the expansion included some structural errors, and inclusion of some U.S.-centric topics. To date, we have not received sufficient feedback on the issues raised with respect to 372.4. We have prepared a preliminary proposal below to address the issues raised in 130-21.1; we plan to seek guidance from reading specialists on these matters.

In addition to the reference in place from 372.416 to 372.417, other methods of instruction and study are scattered throughout 372.42-372.47. We propose to introduce a general scatter reference at 372.416 to elsewhere in 372.4.

Question 5: Do reading specialists and other reviewers have additional suggestions for improvements to 372.4 Reading?

- 372.416 Methods of instruction and study

For individualized reading instruction, see 372.417. For a method of instruction or study not provided for here, see the method elsewhere in 372.4, e.g., individualized reading instruction 372.417, work-attack strategies 372.46

We recommend a minor change in the caption at 372.425 to match the rest of the subdivisions of 372.42, and a change in the wording of the class-here note. Of the fifty-five works classed in 372.425 in WorldCat, thirty-six have the subject heading “Reading—Parent participation.”

- 372.425 Community-school programs~~partnerships~~
 Class here parent participation in reading~~school partnerships~~

Of the twenty-four works classed in 372.455 in WorldCat, only one addresses teaching speed reading to children. None of the standards cited in EPC Exhibit 130-21.1 mentions speed reading. We recommend discontinuing this provision to 372.45.

372[.455] Speed reading

Number discontinued; class in 372.45

The including note under 372.472 Strategies using standardized materials lists an English-language abbreviation, SQ3R (Survey, Question, Read, Recite, Review). This procedure is not tied to standardized materials. We recommend discontinuing the topic to 372.47 Reading comprehension strategies.

372.472 Strategies using standardized materials

Including cloze procedure, ~~SQ3R technique~~

Use of this number for SQ3R technique discontinued; class in 372.47

Class a strategy using standardized materials in a specific subject with the subject in 372.3-372.8, plus notation 044 from table under 372.3-372.8, e.g., cloze procedure in science instruction 372.35044
~~SQ3R in social studies 372.83044~~

372.5 Creative and manual arts

There has been little change to this development over four editions. This is the comprehensive number for the arts in primary education—there are see references to the developments for literature, drama, and dance, but oddly none to music. We have added a see reference to music from 372.5, and a see reference to 372.54 Sewing from 372.37 (see page 4). There appears to be little current publishing activity at the primary level in 372.53 Modeling and sculpture, and in 372.54 Sewing. We are still awaiting advice on the ongoing need for the subdivisions of 372.5.

Question 6: Should the current subdivisions of 372.5 be retained in their current form?

372.5 ~~*Creative and manual~~ The arts

~~Subdivisions are added for either or both topics in heading~~

For literature, see 372.64; for drama, see 372.66; for dance, see 372.868; for music, see 372.87

372.52 *Drawing, painting, design

372.53 *Modeling and sculpture

Subdivisions are added for either or both topics in heading

372.55 *Sewing

Including weaving

372.55 *Handicrafts

Including paper work

For needlework, see 372.54

372.6 Language arts (Communication skills)

As discussed in EPC Exhibit 130-21.1, the development at 372.6 assumes a particular language as the focus of interest in 372.61-372.64 depending on the language of the DDC edition. In the English-language edition, 372.6 represents “language arts in English”; in the German-language edition, the same development represents “language arts in German.” We have proposed a new structure here to recognize the dependence of the meaning of 372.6 on the language of the DDC edition.

372.6 *Language arts (Communication skills)

...

(Option: Class here language arts (communication skills) in a language other than English; in that case, class language arts (communication skills) in English in 372.6521)

The option would appear in the standard edition. In the same edition in another language, the optional and standard treatment would be reversed.

372.6 *Sprachkompetenz (Kommunikationsfertigkeiten)

...

(Option: Hier auch Sprachkompetenz (Kommunikationsfertigkeiten) in einer anderen Sprache als Deutsch; klassifiziere in diesem Fall Sprachkompetenz (Kommunikationsfertigkeiten) in Deutsch in 372.6531)

On the advice of EDUG, we have broadened the meaning of 372.65 Foreign languages and bilingual instruction to recognize other official languages besides the one given preference in 372.6 itself. At Meeting 132, EPC raised the question of provision for indigenous or aboriginal languages. Our current proposal is below. We are still struggling with the terminology here, and would welcome additional advice.

Question 7: Does the current version of the heading at 372.65 accommodate all types of languages?

372.65 *Foreign, official, second languages; ~~and~~-bilingual instruction

Languages other than the language given preference in 372.6

Subdivisions are added for all topics in heading together, for foreign languages alone, for official languages alone, for second languages alone

372.651 *Bilingual instruction

Class comprehensive works on bilingual education in 370.1175

We have also proposed to extend use of the add table under 372.652-372.659 for language arts in any language that is not the primary focus of 372.6 itself.

372.652-.659 Specific foreign, official, second languages

Subdivisions are added for any or all topics in heading

Add to base number 372.65 notation 2-9 from Table 6, e.g., Spanish 372.6561, English as a second language 372.6521; then add further as ~~instructed under 372.3-372.8, e.g., methods of teaching Spanish~~ 372.6561044 follows:

04 General topics

041 Language arts in foreign, official, second languages

Add to 041 the notation following 372.6 in
372.61-372.64, e.g., Spanish composition
372.656104123

042 Place of subject in education

043 Curricula

044 Teaching

Class here methods of instruction, teaching materials
Class textbooks with the subject in 001-999, e.g., an
elementary textbook on arithmetic 513\

- (045) Textbooks
 - (Optional number; prefer the subject in 001-999, e.g., elementary textbook on arithmetic 513)
 - Including readers (if option at 372.4122 is used)
- 049 Instruction at specific levels
 - Including kindergarten
 - Class a specific aspect of instruction at a given level with the aspect, e.g., curricula for kindergarten 043

There is a discussion of the subdivisions of 372.67 Other oral presentations on page 36 of EPC Exhibit 130-21.1 (appendix to EPC Exhibit 132-17.1) in appendix I. We are seeking advice on some of the provisions of this development.

Question 8: Should 372.674 Puppetry and 372.676 Choral speaking be relocated to 372.66 Drama (Theater)?

- 372.67 Other oral presentations
 - Other than drama and choral speaking
 - Class here activities related to oral presentations
 - 372.672 *Media production and presentation
 - Subdivisions are added for either or both topics in heading
 - Class media production of a specific dramatic art with the art, e.g., storytelling for media 372.677
 - 372.674 *Puppetry
 - Limited to instructional use in elementary education
 - Class here puppet theater
 - Class interdisciplinary works on puppetry in 791.53
 - 372.676 *Choral speaking
 - Class here readers' theater
 - 372.672 *Storytelling
-

372.7 Mathematics

In EPC Exhibit 130-21.1, we noted the consistent inclusion of five topics in mathematics at the primary level: EPC Exhibit 130-21.1:

A review of several curricular sources (NCTM 2006; NCTM 2000; New South Wales; New Zealand) reveals a consistent set of subtopics in mathematics at the primary level: number and operations, geometry, measurement, algebra, data analysis and probability.

Numeracy (the term for number and operations in Dewey) is the only topic with explicit provision in the current development. There is literary warrant in 372.7 and 372.70* for the other areas in WorldCat: algebra (192 records), geometry (518 records), measurement (95 records), and probability (70 records). EPC has given tentative approval to the changes presented below. We welcome additional comments from reviewers.

372.7 *Mathematics

Including measurement

372.71 *Algebra

372.72 *Arithmetic

Class here numeracy

372.76 *Geometry

372.79 *Probabilities and statistical mathematics

Subdivisions are added for either or both topics in heading

372.8 Other studies

On the advice of EDUG and EPC, we have made several changes to the development under 372.8 Other studies. We have relocated the rest of 372.82 Home and family management to 372.37 Personal health and safety; social skills. We have also merged comprehensive works on social studies (formerly in 372.83) with history and geography in 372.89. We have retained the separate provision for civics, but discontinued it to the number formerly used for comprehensive works on social studies. A complete discussion can be found on page 37 of EPC Exhibit 130-21.1 (appendix to EPC Exhibit 132-17.1) in appendix I. We welcome additional comments from reviewers on these proposals.

372.8 Other studies

372[.801–.809] Standard subdivisions

Do not use; class in 372.1901–372.1909

372[.82] Home and family management

Relocated to 372.37

372.83 *Civics (Citizenship)

Comprehensive works on social studies relocated to 372.89

372[.832] Civics (Citizenship)

Number discontinued; class in 372.83

372.89 History and geography

Standard subdivisions are added for history and geography together, for history alone

Class here comprehensive works on social studies [formerly 372.82]; civilization

For environmental studies, see 372.357; for social skills, see 372.374; for civics, see 372.83

Levels of education

In EPC Exhibit 128-22, we recommended changing the caption at 372 from “Elementary education” to “Primary education (Elementary education),” and the caption at 378 from “Higher education” to “Tertiary education (Higher education).” During the April 2009 meeting of the EDUG 370 Working Group, it was agreed that the group would focus efforts during the meeting at IFLA 2009 on details of the provisions for specific levels of education in 372-374 and 378 with particular emphasis on the provisions and dividing lines between specific levels in 372 and 373. I agreed to prepare a short paper to guide the discussion (see pages 23-26 of EPC Exhibit 132-17.1 in appendix I). Feedback from the EDUG 370 Working Group can be found in EPC Exhibit 132-17.2 in appendix II. The developments below are based those two exhibits, plus close consultation with the sources referenced on page 26 of EPC 132-17.1 in appendix I. We are considering a recommendation to extend the current Manual note on the levels of education at 372.234 and 373.23, and cite the *International Standard Classification of Education: ISCED 1997* (UNESCO 1997) as a guide to levels of education (similar to our use of Ethnologue as a guide to language families). There is one specific question for reviewers under 372; we welcome additional comments and suggestions on levels of education.

372 Elementary education

The EDUG 370 Working Group agreed with our proposal to change the caption at 372 to “Primary education (Elementary education),” and to reduce the types of schools explicitly mentioned in the class-here note (see the comments on page 61 of EPC Exhibit 132-17.2 in appendix II with respect to infant and junior schools in the UK). The change in terminology for primary education will be reflected throughout the schedule; selected changes are shown below.

372 Primary education (Elementary education)

Class here elementary schools, ~~grade schools, grammar schools (United States), junior schools (United Kingdom), primary schools (United Kingdom)~~; lower sections of all-age-schools

For adult elementary education, see 374.012

We raised the following questions with respect to 372.21 Preschool education and kindergarten: Should the following topics in the class-here note be deleted and moved to the index (or dropped completely): head start programs, play groups, play schools? Should we adopt “Pre-primary education” as the caption at 372.21 and elsewhere in the schedules where preschool education is currently used? Is the provision 372.216 Nursery schools an internationally understood level of education? Based on feedback from the EDUG working group and terminology found in ISCED, we proposed the development found below to EPC at Meeting 132. EPC questioned the use of “pre-primary” in the caption as a replacement for “preschool.”

Question 9: Should we adopt “Pre-primary education” as the caption at 372.21 and elsewhere in the schedules where preschool education is currently used?

372.21 ~~Preschool education and kindergarten~~ Pre-primary education

School-based or center-based education

~~Standard subdivisions are added for preschool education and kindergarten together, for preschool education alone~~

Class here early childhood education, ~~head start programs, play groups, play schools,~~ preschool education in day-care centers

Class preschool education by parents in the home as part of child-rearing in 649.68

372[.216] Nursery schools

Number discontinued; class in 372.21

372.218 Kindergarten

In the specific levels of primary education, we propose more general descriptions of the grade levels. We also have accommodated the systems in Norway and Sweden in which primary education = compulsory education (with a terminal degree provided at the end of such education). The optional number below is already a standard number in DDK 5, and will be treated as such in the next Norwegian edition and the Swedish-English mixed edition.

372.24 Specific levels of education

Class primary elementary education covering grades 1-4 ; ~~junior schools (United Kingdom)~~ in 372

372.241 Lower level

Class here ~~primary~~ grades (1-3); ~~infant schools (United Kingdom); primary schools (United States)~~

372.242 ~~Upper~~ Intermediate level

Former heading: Upper level

Class here ~~intermediate~~ grades (4-6)

Class lower secondary level, middle schools (grades 5-8), junior high schools (grades 7-9) in 373.236

(Option: Class lower secondary level, grades 8-10 of compulsory primary education in 372.243; prefer 373.236)

(372.243) Upper level

(Optional number; prefer 373.236)

Class here lower secondary level, grades 8-10 of compulsory primary education

373 Secondary education

Proposals below are limited to 373.23 Specific levels of secondary education.

The provisions in 373.21-373.22 Specific kinds of schools and 373.24-373.26 Secondary schools identified by type of curriculum require further study.

.236 Lower level

Including grades above 6 in ~~elementary primary schools, forms above the equivalent level in junior schools (United Kingdom)~~

Class here junior high schools (grades 7-9), middle schools (grades 5-8); grades 8-10 of compulsory primary education

(Option: Class lower secondary level, grades 8-10 of compulsory primary education in 372.243)

For lower grades of middle schools, see 372.242

373.238 Upper level

Including high school equivalency programs

Class here ~~comprehensive works on sixth form colleges [formerly 378.1543], senior high schools (grades 10-12); high school post-graduate programs; lower years of four year and three year junior colleges, of sixth form colleges~~

For upper years of sixth form colleges, see 378.1543

374 Adult education

We have not yet studied this area in detail.

One of the current gaps in the DDC is satisfactory treatment of post-secondary non-tertiary education (ISCED Level 4). Adult education is one element of Level 4; other elements include vocational training not leading to a degree, and post-secondary programs to prepare students for entry into university. The last element is currently part of 373.238 (“high-school post-graduate programs”); we plan to reconsider that placement as part of our study of post-secondary non-tertiary education.

378 Higher education

We had originally recommended changing the caption from “Higher education” to “Tertiary education (Higher education) to match international terminology. Based on feedback from the EDUG working group, we have reversed this proposal to “Higher education (Tertiary education).”

Proposals below are limited to 378.15 Specific levels of higher education, evening school. The provisions in 378.03-378.07 Specific kinds of colleges and universities and 378.04-378.05 Public and private colleges and universities require further study.

378 Higher education (Tertiary education)

Class here college education, university education; universities

Class four-year colleges in 378.1542

For higher education in a specific subject, see the subject, plus notation 0711 from Table 1, e.g., medical schools 610.711

See Manual at 371.01-371.8 vs. 372-374, 378

378.154 Undergraduate ~~colleges~~ level

~~Institutions conferring a bachelor's degree or lower degrees~~

378.1542 Programs leading to a bachelor's degree ~~Four-year colleges~~

~~Including upper division (junior and senior year) colleges~~

Class here four-year colleges, three-year institutions conferring the equivalent of a bachelor's degree, undergraduate departments and schools of universities

378.1543 Programs leading to degrees below the bachelor's level ~~Junior colleges~~

Class here institutions granting degrees below the bachelor's level ~~four-year and three-year junior colleges, two-year community colleges, upper years of sixth-form colleges, comprehensive works on community colleges~~

378.155 Graduate level departments and schools

Including post-doctoral programs

Class here independent institutions conferring advanced degrees, graduate departments and schools of universities, comprehensive works on professional schools

Class comprehensive works on professional education in 378.013

For professional schools at undergraduate level, see 378.154

There are only 7 records in WorldCat in 378.158 and its subdivisions. One recent work on distance learning was classed in this number by attraction; it should have gone into the overlooked built number 378.175 (378.17 Methods of instruction and study plus notation 5 from 371.35 Distance education). We recommend discontinuing this number. This will affect the current caption and example at 378.15.

378[.158] Evening school in higher education

~~Independent colleges, or departments of larger institutions~~

Number discontinued; class in 378.15

378.15 Specific levels of higher education; ~~evening school~~

Class specific institutions in 378.4-378.9. Class a specific topic of higher education with respect to a specific level of higher education ~~or evening school~~ with the topic in 378.1, e.g., teaching at the graduate level 378.155 ~~in evening school 378.125~~

Appendix I

EPC Exhibit 132–17.1
September 3, 2009

THE LIBRARY OF CONGRESS

Dewey Section

To: Caroline Kent, Chair
Decimal Classification Editorial Policy Committee

Cc: Members of the Decimal Classification Editorial Policy Committee
Karl E. Debus-López, Chief, U.S. General Division

From: Joan S. Mitchell, Editor in Chief
Dewey Decimal Classification
OCLC Online Computer Library Center, Inc.

Re: Discussion Paper for EDUG 370 WG Meeting at IFLA 2009

Attached is a copy of the discussion paper sent to the EDUG 370 Education Working Group (WG). The group held a preliminary discussion of the paper at a meeting in Florence on August 20, 2009. (The working group meeting was held in association with the IFLA Satellite meeting sponsored by the Classification and Indexing Section, *Looking at the Past and Preparing for the Future.*)

To: EDUG 370 Education Working Group

From: Joan S. Mitchell, Editor in Chief
Dewey Decimal Classification
OCLC Online Computer Library Center, Inc.

Date: July 9, 2009

Subject: Discussion Paper for EDUG 370 WG Meeting at IFLA 2009

This discussion paper addresses provisions for specific subjects in elementary education in 372.3-372.8, and the treatment of levels of education in 370. The work in this report builds on reports issued by the EDUG 370 Education Working Group in 2008 (EPC Exhibit 129-19) and 2009 (130-21.2); research and proposals presented in EPC exhibits 131-19.1, 130-21.1, and 128-22; and recommendations from EPC and other groups. For the convenience of working group members, I have included EPC exhibits 130-21.1 and 130-21.2 in an appendix. Please do not hesitate to contact me if you need copies of other documents.

372.3-372.8 Specific subjects in elementary education

At Meeting 131, EPC discussed the recommendations of the EDUG 370 Working Group on selected changes to 372.3-372.8. In addition to reviewing the report of the working group (EPC Exhibit 131-19.2), EPC considered a preliminary development based on the group's recommendations (EPC Exhibit 131-19.1). EPC was generally favorable to the changes proposed in the latter exhibit, but requested reconsideration of the revised caption at 372.3 and the proposed placement of interdisciplinary studies under that number versus the continued implicit provision for the topic under 372.19. Under 372.34, EPC recommended replacing "computer literacy" with "digital literacy." EPC also recommended adding a note under 372.358 to make it clear that 372.358 covers technology parallel to the topics provided in 600 Technology (Applied sciences). EPC expressed some concern about the term "other languages" in the development at 372.65, but no viable alternative emerged during the discussion.

Proposed changes to the schedule presented in EPC Exhibit 131-19.1 are highlighted in yellow. *These proposed changes are preliminary, but are being shared with EDUG in advance of additional internal editorial review and review by EPC. We are particularly interested in whether the term "digital literacy" is understood in an international context.*

We would also welcome additional comments on the issues raised in EPC Exhibit 130-21.1 with respect to 372.4 Reading, 372.5 Creative and manual arts, 372.67 Other oral presentations, and 372.7 Mathematics. Some working group members commented on these issues previously as reported in EPC Exhibit 130-21.2.

372.3 ~~Computers,~~ Computer science, information, general works; science, technology, ~~health~~

Class here comprehensive works on interdisciplinary studies

Class interdisciplinary studies with a focus on a specific subject with the subject, e.g., environmental studies with components of civics and geography 372.357, writing across the curriculum 372.623

372.34 *~~Computers~~ Computer science; library and information sciences

Subdivisions are added for any or all topics in heading

Class here ~~computer literacy~~ digital literacy, information literacy

Class use of computers as a method of instruction in 372.1334; class use of computers as a method of instruction in a specific subject with the subject in 372.3-372.8, plus notation 044 from table under 372.3-372.8

372.35 *Science and technology

Including metric system

Subdivisions are added for science and technology together, for science alone

~~Class computers in 372.34~~

For mathematics, see 372.7

372.357 *Nature study

Class here environmental studies

372.358 *Technology (Applied sciences)

Including robots

Class here industrial arts

For ~~computers~~, see 372.34; for personal health and safety, home and family management ~~economies~~, see 372.8237; for physical education, see 372.86

See also 372.5 for manual arts

372.37 *Personal health and safety; social skills

Including comprehensive works on home and family management
[formerly 372.82]

Subdivisions are added for personal health and safety, social skills
together; for personal health and safety together; for personal health alone

Class food in 372.373; class social skills in 372.374

For physical education, see 372.86

372.372 *Sex education

Including human reproductive physiology

~~Class family life education in 372.82~~

372.373 *Nutrition and food

Including cooking

Subdivisions are added for either or both topics in heading

372.375 *Social skills

Class here family life, interpersonal relationships

372.378 *Substance abuse

372.65 *~~Foreign~~Other languages and bilingual instruction

Subdivisions are added for ~~foreign~~ other languages and bilingual instruction together, for ~~foreign~~ other languages alone

Class here foreign languages, other official languages

372.651 *Bilingual instruction

Class comprehensive works on bilingual education in 370.1175

372.652–.659 Specific ~~foreign~~ other languages

Add to base number 372.65 notation 2–9 from Table 6, e.g., Spanish 372.6561, English as a second language 372.6521; then add further as ~~instructed under 372.3–372.8, e.g., methods of teaching Spanish~~ 372.6561044 follows:

04 General topics

041 Language arts in other languages

Add to 041 the notation following 372.6 in 372.61-372.64, e.g., Spanish composition 372.656104123

042 Place of subject in education

043 Curricula

044 Teaching

Class here methods of instruction, teaching materials
Class textbooks with the subject in 001-999, e.g., an elementary textbook on arithmetic 513

(045) Textbooks

(Optional number; prefer the subject in 001-999, e.g., elementary textbook on arithmetic 513)
Including readers (if option at 372.4122 is used)

049 Instruction at specific levels

Including kindergarten

Class a specific aspect of instruction at a given level with the aspect, e.g., curricula for kindergarten 043

372.8 Other studies

372[.801–.809] Standard subdivisions

Do not use; class in 372.1901–372.1909

372[.82] Home and family management

Relocated to 372.37

372.83 *Civics (Citizenship)

Comprehensive works on social studies relocated to 372.89

372[.832] Civics (Citizenship)

Number discontinued; class in 372.83

372.89 History and geography

Standard subdivisions are added for history and geography together, for history alone

Class here comprehensive works on social studies [formerly 372.82]; civilization

For environmental studies, see 372.357; for social skills, see 372.374; for civics, see 372.83

Levels of education

In EPC Exhibit 128-22, we recommended changing the caption at 372 from “Elementary education” to “Primary education (Elementary education),” and the caption at 378 from “Higher education” to “Tertiary education (Higher education).” During the April 2009 meeting of the EDUG 370 Working Group, it was agreed that the group would focus efforts during the meeting at IFLA 2009 on details of the provisions for specific levels of education in 372-374 and 378 with particular emphasis on the provisions and dividing lines between specific levels in 372 and 373. I agreed to prepare a short paper to guide the discussion.

I found the following three references particularly helpful in preparing this document: *International Standard Classification of Education: ISCED 1997* (UNESCO 1997), *Classifying Educational Programmes: Manual for ISCED-97 Implementation in OECD Countries* (OECD 1999), and *Comparative Indicators of Education in the United States and Other G-8 Countries: 2006* (Miller, Sen, and Malley 2007). All three are available

on the web. *ISCED 1997* is used to define levels of education and fields of education for the purpose of international compilation and comparison of educational statistics. The appendix in the second work (OECD 1999) contains a detailed analysis of the levels of education in several European countries that should prove useful in our discussion. Appendix A in Miller, Sen, and Malley (2007) also includes data on the levels of education in several European countries.

The following is an outline of the current DDC framework for levels of education accompanied by the corresponding ISCED level¹:

372-374	Specific levels of education	
372	Elementary education	
372.2	Specific levels of elementary education	
372.21	Preschool education and kindergarten	(ISCED 0)
372.216	Nursery schools	
372.218	Kindergarten	
372.24	Specific levels of elementary school	(ISCED 1)
372.241	Lower level	
372.242	Upper level	
373	Secondary education	
373.23	Specific levels of secondary education	
373.236	Lower level	(ISCED 2)
373.238	Upper level	(ISCED 3)
374	Adult education	(part of ISCED 4)
378	Higher education	
378.15	Specific levels of higher education	
378.154	Undergraduate colleges	(ISCED 5)
378.1542	Four-year colleges	(ISCED 5A)
378.1543	Junior colleges	(ISCED 5B)
378.155	Graduate departments and schools	(ISCED 5A/6)

Issues related to specific levels of education are discussed below. I also suggest that working group members review the Manual note at 372.24 and 373.23 Specific levels of elementary and secondary education.

372 Elementary education

In class 372, we recommend changing the caption, and reducing the types of schools explicitly mentioned in the note to elementary schools, primary schools, and lower sections of all-age schools. We recommend adding the rest of the terms, with the

¹ Levels 2, 3, 4, and 5 are further subdivided by program orientation, which may be of interest in a type-of-school discussion, but program orientation is not immediately relevant to the discussion at hand.

possible exception of junior schools, as index entries. We welcome suggestions for additional general index terms; terms limited to a specific language group should be added to the index in translations. Of course, additional terminology may be associated with specific classes by mapping subject headings.

Junior schools are equivalent to grades 3-6 of primary education. Presumably because they cover four years of primary education, they were considered to have approximated the whole of primary education and were placed at 372. However, infant schools, the lower level counterpart of junior schools, have always been classed at 372.241. Should junior schools be moved to 372.242? Are the various “key stages” in UK education indexable terms (e.g., Key stage 1, Key stage 2)?

We still need to discuss the situation in Norway and Sweden in which primary education = compulsory education = grades 1-10. *ISCED 1997* advises the following:

In countries where primary education is part of ‘basic education’, only the first stage should be included in level 1. If ‘basic education’ is not officially divided into stages, only the first six years should be classified as level 1. (UNESCO 1997, 23)

372 Primary education (Elementary education)

Class here elementary schools, ~~grade schools, grammar schools (United States), junior schools (United Kingdom), primary schools (United Kingdom)~~; lower sections of all-age-schools

For adult elementary education, see 374.012

372.21 *Preschool education and kindergarten*

We would like advice on the caption, the topics in the class-here note, and the current subdivisions. Should the following topics in the class-here note be deleted and moved to the index (or dropped completely): head start programs, play groups, play schools? Should we adopt “Preprimary education” as the caption at 372.21 and elsewhere in the schedules where preschool education is currently used? Is the provision 372.216 Nursery schools an internationally understood level of education?

372.24 *Specific levels of elementary education*

See the earlier question about junior schools.

372.243 *Lower level*

Here we recommend deleting types of schools from the class-here note and moving them to the index. We recommend dropping “Primary schools (United States)” from the schedule and index.

373 Secondary education

We have not received any specific comments to date on the development under 373.23 Specific levels of secondary education. We would like advice on adjusting the contents

of the notes under 373.236 Lower level and 373.238 Upper level to make them more descriptive and less UK- and US-centric.

374 Adult education

We have not yet studied this area in detail. We welcome comments and advice.

378 Higher education

In class 378, we recommend changing the caption from “Higher education” to “Tertiary education (Higher education) to match international terminology. Can we learn anything from the EC’s efforts in curricular reform (the Bologna Process) to improve the presentation in 378?

We would like advice on adjusting the contents of the notes under 378.15 Undergraduate colleges plus its subdivisions to make them more descriptive and less UK- and US-centric. We are also concerned about the caption at 378.1543, “Junior colleges.” This term has multiple meanings in the education field. Is there an internationally understood term to describe shorter programs such as two-year programs?

378.155 Graduate departments and schools

Is there a need for further division at this level? This includes advanced professional education and advanced research education.

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Re: 372.3-372.8 Elementary education in specific subjects: Discussion paper

At Meeting 128, we presented our initial plans for a research project to re-conceptualize 370 Education (EPC Exhibit 128-22). Among the questions we posed for study was the following: “How can we generalize the current provisions for the primary school curriculum to remove U.S. bias and provide a global framework?” The Dewey Decimal Classification has a detailed structure for the specific subjects in the primary education curriculum that is deeply rooted in the U.S. educational experience at a particular point in time. The top-level structure has remained remarkably stable for several editions, in spite of wider adoption of the DDC and changes in primary curricula. In recent times, minor improvements were introduced in DDC 20. In DDC 21, the provisions for language arts and reading were revised and expanded based on a development suggested by a U.S. school librarian (Frances Corcoran, Consolidated School District #62, Des Plaines, Illinois). The time is right for a fresh look at the development with the advice of our international body of advisors.

This paper presents a multi-edition summary of the general framework for specific subjects in primary education in three tables, followed by a brief discussion and preliminary questions about specific provisions. In addition to a review of resources in WorldCat, I have framed the discussion questions based on a preliminary survey of the primary school curricula of Massachusetts (U.S.), New South Wales (Australia), and New Zealand. I have also consulted the provisions for specific subjects in two recent customized abridged versions of the DDC, DDK 5 (the 5th edition of *Deweys Desimalklassifikasjon*) and *Guide de la Classification Décimale de Dewey*. A complete list of preliminary sources consulted follows the discussion.

Our initial focus is on the basic framework—we pose a series of questions about the explicit provisions for subjects in primary education. This paper is a work in progress—

we plan to add to the discussion based on feedback from reviewers, further study of current provisions in notes and the Relative Index, and a detailed examination of model curricula. In addition to EPC members and observers, we plan to share our work with the EDUG (European Dewey Users Group) Working Group on 370 Education. The EDUG group has agreed to review the provisions for subjects in the primary education curriculum, and make recommendations for updates that will be considered at Meeting 131.

Table 1. Basic framework of 372.3-372.8 Elementary education in specific subjects

	DDC 19	DDC 20	DDC 21	DDC 22
372.3	Science and health	Science, technology, health	Computers, science, technology, health	Computers, science, technology, health
372.34			Computers	Computers
372.35	Science	Science and technology	Science and technology	Science and technology
372.357	Nature study	Nature study	Nature study	Nature study
372.358		Technology	Technology	Technology
372.37	Health and hygiene	Health and hygiene	Health (Hygiene)	Personal health and safety
372.372	Sex education	Sex education	Sex education	Sex education
372.373				Nutrition and food
372.378				Substance abuse
372.4 ²	Reading	Reading	Reading	Reading
372.5	Creative and manual arts	Creative and manual arts	Creative and manual arts	Creative and manual arts
372.52	Drawing, painting, design	Drawing, painting, design	Drawing, painting, design	Drawing, painting, design
372.53	Modeling and sculpture	Modeling and sculpture	Modeling and sculpture	Modeling and sculpture
372.54	Sewing	Sewing	Sewing	Sewing
372.55	Handicrafts	Handicrafts	Handicrafts	Handicrafts
372.6 ³	Language arts (Communication skills)	Language and literature	Language arts (Communication skills)	Language arts (Communication skills)
372.7	Mathematics	Mathematics	Mathematics	Mathematics
372.72	Arithmetic	Arithmetic	Arithmetic	Arithmetic
372.73	Modern mathematics (“The new math”)			
372.8	Other studies	Other studies	Other studies	Other studies
372.82	Home economics	Home economics	Home economics	Home economics
372.83	Social studies	Social studies	Social studies	Social studies
372.832	Civics (Citizenship)	Civics (Citizenship)	Civics (Citizenship)	Civics (Citizenship)
372.84		Religion	Religion	Religion
372.86	Physical education	Physical education	Physical education and dance	Physical education and dance
372.868			Dance	Dance
372.87	Music	Music	Music	Music
372.872	Appreciation	Appreciation	Appreciation	Appreciation
372.873	Performance	Performance	Performance	Performance
372.874	Composition	Composition	Composition	Composition
372.89	History and geography	History and geography	History and geography	History and geography
372.891	Geography	Geography	Geography	Geography

² Reading development compared in table 2.

³ Language arts development compared in table 3.

Table 2. 372.4 Reading

	DDC 19	DDC 20	DDC 21	DDC 22
372.4	Reading	Reading	Reading	Reading
372.41	General reading instruction	General topics	Instructional materials, reading readiness, methods of instruction and study	Instructional materials, reading readiness, methods of instruction and study
372.412	(Optional number for Readers)	(Optional number for Readers)	Instructional materials	Instructional materials
372(.4122)			(Optional number for Readers)	(Optional number for Readers)
372.414	Methods of instruction	Readiness and methods of instruction	Reading readiness	Reading readiness
372.4142	Fostering and determining readiness	Fostering and determining readiness		
372.4144	Whole word methods (Word recognition)	Whole word methods (Word recognition)		
372.4145	Part methods	Part methods		
372.4147	Individualized (Personalized) reading instruction	Individualized (Personalized) reading instruction		
372.416			Methods of instruction and study	Methods of instruction and study
372.4162			Small-group reading instruction	Small-group reading instruction
372.4164			Whole-class reading instruction	Whole-class reading instruction
372.417			Individualized (Personalized) reading instruction	Individualized (Personalized) reading instruction
372.42			Reading motivation	Reading motivation
372.423			Use of national and commercial programs	Use of national and commercial programs
372.425			Community-school partnerships	Community-school partnerships
372.427			School-based programs	School-based programs

Table 2. 372.4 Reading (continued)

372.43	Remedial reading	Remedial reading	Remedial reading	Remedial reading
372.44			Vocabulary development	Vocabulary development
372.45			Reading-skill strategies	Reading-skill strategies
372.452			Oral reading	Oral reading
372.454			Independent reading	Independent reading
372.455			Speed reading	Speed reading
372.46			Word-attack (Decoding) strategies	Word-attack strategies (Decoding strategies)
372.462			Whole-word (Sight) methods	Whole-word method (Sight method)
372.465			Part-word method (Phonetic method)	Part-word method (Phonetic method)
372.47			Reading comprehension strategies	Reading comprehension strategies
372.472			Strategies using standardized materials	Strategies using standardized materials
372.474			Cognitive strategies	Cognitive strategies
372.475			Whole-language approach	Whole-language approach
372.48			Evaluation of reading skills	Evaluation of reading skills
372.482			Standardized testing	Standardized testing
372.484			Classroom and school testing	Classroom and school testing
372.486			Diagnostic testing	Diagnostic testing

Table 3. 372.6 Language arts (Communication skills)

	DDC 19	DDC 20	DDC 21	DDC 22
372.6	Language arts (Communication skills)	Language and literature	Language arts (Communication skills)	Language arts (Communication skills)
372.61	Grammar and word study	Grammar, usage, word study	Grammar	Grammar
372.62	Expression	Expression	Written and spoken expression	Written and spoken expression
372.622	Phonetics and speech	Phonetics and speech	Speech	Speech
372.623	Composition	Composition	Composition	Composition
372.63	Spelling and handwriting	Spelling and handwriting	Spelling and handwriting	Spelling and handwriting
372.632	Spelling	Spelling and orthography	Spelling (Orthography)	Spelling (Orthography)
372.634	Handwriting (Penmanship)	Handwriting (Penmanship)	Handwriting (Penmanship)	Handwriting (Penmanship)
372.64	Literature (Belles letters)	Literature (Belles letters)	Literature appreciation	Literature appreciation
372.65	Foreign languages	Foreign languages	Foreign languages and bilingual instruction	Foreign languages and bilingual instruction
372.651			Bilingual instruction	Bilingual instruction
372.66	Drama	Drama and theater	Drama (Theater)	Drama (Theater)
372.67			Other oral presentations	Other oral presentations
372.672			Media production and presentation	Media production and presentation
372.674			Puppetry	Puppetry
372.676			Choral speaking	Choral speaking
372.677			Storytelling	Storytelling
372.679			Listening	Listening

Discussion

372.3 Computers, science, technology, health

372.34 Computers

During the Dewey Breakfast at the American Association of School Librarians (AASL) Conference in October 2007, several librarians in attendance noted that computers are now mainstreamed throughout the curriculum. Further support for this direction is found under the heading “[How much time will be spent on each subject?](#)” in the *NSW Primary Curriculum: Parents' Guide to the NSW Primary Syllabuses*: “The use of computers is included in every stage of every subject.” In the National Council of Teachers of Mathematics’ *Principles and Standards for School Mathematics*, the following statement is made about the use of technology in the mathematics classroom:

Electronic technologies—calculators and computers—are essential tools for teaching, learning, and doing mathematics. They furnish visual images of mathematical ideas, they facilitate organizing and analyzing data, and they compute efficiently and accurately. They can support investigation by students in every area of mathematics, including geometry, statistics, algebra, measurement, and number. When technological tools are available, students can focus on decision making, reflection, reasoning, and problem solving. (NCTM 2000, 25)

General works on the use of computers as a method of instruction at the primary level are provided for at 372.1334; use of computers as a method of instruction in a specific subject at the primary level can be shown by the topic plus notation 044 from the table under 372.3-372.8.

Should the separate provision for computers be eliminated?

372.35 Science and technology

Measurement is a concept in science and mathematics. In science, measurement is taught as part of simple scientific operations, e.g., calculating liquid volume using a beaker. In mathematics, conversion between systems is one aspect of measurement; other aspects include ratio and proportion. Currently, the only mention of a measurement-related topic in 372.35 Science and technology or 372.7 Mathematics is “Including the metric system” at 372.35. There are twenty-seven works on the metric system in 372.35, only one of which has been published since 2003.

Can explicit mention of the metric system be dropped at 372.35?

372.37 Personal health and safety; 372.82 Home economics

We adopted the parallel caption from 613 Personal health and safety in DDC 22—at the same time, we relocated cooking from 372.82 to 372.373.

Is cooking really taught at the primary level? Does it need to be mentioned explicitly at the primary level?

An inspection of recent works classed in 372.82 raises the question whether the rest of 372.82 should be relocated to 372.37. Topics such as social skills and interpersonal

relationships are typically part of the health and safety curriculum. For example, the social and emotional health strand of the *Massachusetts Comprehensive Health Curriculum Framework* includes family life and interpersonal relationships. In the *NSW Primary Curriculum Foundation Statements*, the Personal Development, Health and Physical Education (PDHPE) curriculum contains three main subject areas: fundamental movement and physical activity, healthy choices, and self and relationships.

The health and physical education curriculum in the *New Zealand Primary Curriculum* includes health education, physical education, and home economics. Home economics is defined as follows:

In home economics, students develop an understanding of the factors that influence the well-being of individuals and families within the home and community and of the actions people take to enhance and sustain those environments. In the context of food and nutrition, students evaluate current issues and theories of nutrition, identify and reflect on factors that influence people's choices and behaviours, and use this knowledge to make informed decisions. Through the processes of selecting, preparing, cooking, and serving food, students develop their creativity and experience a sense of accomplishment. At the same time, they develop personal and interpersonal understandings and skills that contribute to well-being. (New Zealand 2007, 23)

Should 372.82 Home economics be relocated in full to 372.37? If yes, which additional subdivisions should be developed?

372.4 Reading

An expansion for reading was introduced in DDC 21. Unfortunately, a structural error was introduced in the new development—several of the subdivisions appear to be specific methods of instruction and study, but they are not related notationally or structurally to 372.416 Methods of instruction and study. For example, 372.46 Word-attack strategies is a method of instruction and study. There is a general class-with-the-last provision, but this does not replace clear indication of the relation of specific methods of instruction and study to the comprehensive number.

Which provisions of 372.42-372.47 should be explicitly identified as a specific method of instruction in a see reference from 372.416 Methods of instruction?

372.42 Reading motivation

The captions associated with the subdivisions of 372.42 Reading motivation need to be revisited for comprehensiveness and consistency in style. For example, many of the works classed in 372.425 Community-school partnerships are focused on reading with your child at home. The topic “parent-school partnerships” is in the class-here note, but use of the word “partnerships” in the caption and note may be misleading.

Are the current provisions under 372.42 useful in a global framework and defined adequately?

372.455 Speed reading

There are seventeen works in WorldCat classed in 372.455 Speed reading—only one addresses teaching speed reading to children (and it is not limited to instruction in primary schools). None of the cited standards addresses speed reading.

Can 372.455 Speed reading be discontinued?

372.47 Reading comprehension strategies

The including note under 372.472 Strategies using standardized materials includes an English-language abbreviation for a particular method, SQ3R (Survey, Question, Read, Recite, Review)—this procedure is not tied to standardized materials.

We suggest discontinuing the topic “SQ3R” to 372.47 Reading comprehension strategies.

It appears that 372.475 Whole-language approach should not have been developed under 372.47 Reading comprehension strategies. “Whole language approach” appears to have more than one meaning, but in both cases is a method of instruction. In the *Massachusetts English Language Arts Curriculum Framework*, “whole language approach” and “phonics” are differentiated as follows:

For years a fundamental disagreement in philosophy and approach has divided teachers of reading into two camps. Those who support systematic phonics instruction believe that in order to read, students must be able to decode most of the words in a text. Phonics instruction is based on the alphabetic principle and emphasizes teaching children the relationship between sounds and letters. When a student knows the letter-sound connections, he can “sound out” and read the vocabulary encountered in a text. Systematic phonics advocates believe primary grade teachers should provide both explicit, systematic phonics instruction and a variety of reading materials. On the other hand, proponents of whole language believe that understanding the relationships between sounds and letters is only one of the many ways students can learn new words encountered in their reading and that letter-sound concepts are best taught as they arise during a child’s reading. Whole language advocates believe that instruction should focus on immersing students in meaningful reading materials. (Massachusetts 2001, 119)

LCSH uses “Reading—Language experience approach”; “Reading—Whole language approach” appears as a 450 in the LCSH record for the former. At 372.475 Whole-language approach, “language experience approach” appears in the class-here note. LCSH cites the ERIC Thesaurus as a source in the authority record. In the ERIC Thesaurus, “Language experience approach” and “Whole language approach” are related terms. ERIC defines “Language experience approach” as “an approach to teaching reading and language arts that uses words and stories from the student's own language and experience.” ERIC defines “Whole language approach” as a “method of integrating language arts ‘across the curriculum’ that uses the real literature of various age groups and subject fields to promote literacy (i.e., reading, writing, speaking, listening, as well as thinking, skills).”

In the context of reading, should the current provision at 372.475 be relocated from reading comprehension to elsewhere in 372.4 Reading (perhaps a new subdivision of

372.45 Reading-skill strategies)? Should a provision for whole language approach in the context of the ERIC definition be introduced somewhere in 371.3?

372.5 Creative and manual arts

There has been little change to this development over four editions. This is the comprehensive number for the arts in primary education—there are see references to the developments for literature, drama, and dance, but oddly none to music. The last needs to be added, and the heading needs to be reconsidered.

Neither DDK 5 nor *Guide de la Classification Décimale de Dewey* includes subdivisions of 372.5. A review of literary warrant in WorldCat shows limited recent publishing activity in all but one of the subdivisions:

372.52 Drawing, painting, design—594 records, 88 records since 2003

372.53 Modeling and sculpture—75 records, only 8 since 2003

372.54 Sewing—53 records, 1 since 2003

372.55 Handicrafts—481 records, 39 since 2003

Should the caption be changed to “The arts”? Should the current subdivisions, with the possible exception of 372.52, be discontinued?

372.6 Language arts (Communications skills)

There is a major issue here that needs to be considered broadly in the DDC—the development assumes a particular language as the focus of interest in 372.61-372.64. For example, in DDC 22, the focus of 372.61-372.64 is on language arts related to English; other languages (and English as a second language) are considered in 372.65 Foreign languages and bilingual instruction. In DDK 5, the same development is focused on language arts in Norwegian (English instruction is classed in 372.6521). It is not easy to change the development here—perhaps these numbers need always to be considered in the context of the edition in which they appear.

The development at 372.67 was introduced in DDC 21. Literary warrant counts in WorldCat for 372.67 and its subdivisions are as follows:

372.67 Other oral presentations—145 records

372.672 Media production and presentation—16 records

372.674 Puppetry—22 records

372.676 Choral speaking—19 records

372.677 Storytelling—237 records

It is worth noting that seventeen of the nineteen records in 372.676 are devoted to readers’ theatre (the topic in the class-here note under 372.676).

We are seeking advice on some of the provisions in this development. Should 372.674 Puppetry and 372.676 Choral speaking be relocated to 372.66 Drama (Theater)?

372.7 Mathematics

Currently, one subdivision (372.72 Arithmetic) is provided. Neither DDK 5 nor *Guide de la Classification Décimale de Dewey* includes the subdivision; Abridged Edition 14 also does not include it. A review of several curricular sources (NCTM 2006; NCTM 2000; New South Wales; New Zealand) reveals a consistent set of subtopics in mathematics at the primary level: number and operations, geometry, measurement, algebra, data analysis and probability.

Is one subdivision for mathematics sufficient at the primary level? Do we need to update the terminology for arithmetic here and elsewhere in the DDC?

372.8 Other studies

372.82 Home economics

See the earlier discussion under 372.37.

372.83 Social studies; 372.89 History and geography

In the primary school curriculum, the subject “social studies” encompasses the topics currently divided between provisions in 372.83 Social studies and 372.89 History and geography (there is a see reference from 372.83 to 372.89 that places the latter in the same structural hierarchy). In DDK 5, 372.83 is vacant and the two developments (social studies plus history and geography) are merged in 372.89. In *Guide de la Classification Décimale de Dewey*, neither subdivision of 372.8 is provided—all are listed as topics under 372.8 Autres matières.

Here are the usage counts from WorldCat:

372.83 Social studies—6237 records, 700 since 2003

372.832 Civics (Citizenship)—395 records, 95 since 2003

372.89 History and geography—3402 records, 394 since 2003

In the *NSW Primary Curriculum Foundation Statements*, all these topics are joined together in a single curriculum, Human Society and Its Environment (HSIE):

HSIE enhances each student’s sense of personal, community, national and global identity and enables them to participate effectively in maintaining and improving the quality of their society and environment. The four broad strands of HSIE are: Change and Continuity, Cultures, Environments, Social Systems and Structures. (New South Wales, “Foundation statements,” 3)

The *Massachusetts History and Social Science Curriculum Framework* also integrates the same topics:

In this curriculum framework, the four disciplines of history, geography, economics, and civics and government are integrated in the learning standards; they are not presented in four separate strands. This organization supports the teaching of a coherent historical narrative. (Massachusetts 2003, 5).

Is it desirable to bring all elements of social studies into the same notational hierarchy?

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Re: 370 Education Working Group (Progress Report)

Attached are two documents from the European DDC User's Group (EDUG) 370 Education Working Group. The first discusses national curricula for primary schools; the second contains the group's preliminary remarks on 372.3-372.8. (*Note: Both reports were compiled prior to distribution of EPC Exhibit 130-21.1*).

EDUG – Education WG National curricula

NB: Neither the National Library of Norway nor the National Library of France nor the British Library classify elementary textbooks.

The National Library of Florence treats many works on education, teaching and related activities on various subjects (at all levels). All these publications, deposited according to legal dispositions with the National Library of Florence, are fully indexed and classified with DDC21 (while awaiting the imminent publication of the 22nd Italian Edition). Furthermore, among the various series edited by the Italian National Bibliography, there is one that records high school textbooks.

1. English curriculum

372.21 : The separation of Nursery Schools and Kindergarten seems artificial to British classifiers.

372.241, 372.242 : Infant and Junior in England would now be described as Key stages 1 and 2.

a. National Curriculum for pre-school and elementary pupils in England

These are edited extracts from the curricula

Pre formal schooling

The **Foundation Stage** is the British government label for education for pupils aged 3 to 5 in England. In Northern Ireland, it is also used, but to refer to the first to years of compulsory education for pupils aged 4 to 6.

It covers education for children from the age of three to the end of the reception year (the year in which they are five). It is a distinct stage and important both in its own right and in preparing children for later schooling, when children progress to the national curriculum key stage 1 in year 1.

Children may go to a number of different settings during the foundation stage:

- local authority nurseries/children's centres
- early excellence centres
- neighbourhood nurseries
- nursery centres
- pre-schools
- accredited childminders in approved childminding networks
- schools in the independent, private or voluntary sectors

- maintained schools.

The guidance states that through well-planned play, both indoors and outdoors, children can:

- Explore, develop and represent learning experiences that help them make sense of the world
- Practice and build up ideas, concepts and skills
- Learn how to control impulses and understand the need for rules
- Be alone, be alongside others, or cooperate as they talk or rehearse their feelings
- Take risks and make mistakes
- Think creatively and imaginatively
- Communicate with others as they investigate or solve problems
- Express fears or relive anxious experiences in controlled and safe situations

The curriculum is organised into six areas of learning:

- Personal, social and emotional development
- Communication, language and literacy
- Mathematical development
- Knowledge and Understanding of the World
- Physical development
- Creative development

These six areas help practitioners to plan the learning environment and the activities provided within it, but this does not mean that children learn in these separate subject-based areas. Very often, a well-planned activity can promote children’s development and understanding in several areas simultaneously.

Formal schooling

	Key stage 1	Key stage 2
Age	5-7	7-11
Year groups	1-2	3-6
Previously called	“Infant”	“Junior”

Subjects
English
Mathematics
Science
Design and technology

Information and communication technology
History
Geography
Modern foreign languages
Art and design
Music
Physical education

At key stages 1 and 2 the statutory subjects that all pupils must study are art and design, design and technology, English, geography, history, information and communication technology, mathematics, music, physical education and science. (The requirements for English teaching may vary in Wales)

Compulsory schooling starts at age 5, however, many children start at 4.

Other requirements:

Religious education: “Schools must provide religious education for all registered pupils, although parents can choose to withdraw their children. Schools, other than voluntary aided schools and those of a religious character, must teach religious education according to a locally agreed syllabus. Each agreed syllabus should reflect the fact that the religious traditions in Great Britain are in the main Christian, while taking account of the teachings and practices of the other principal religions represented in Great Britain”

Sex education

“Primary schools must provide and keep up to date a written statement of their policy on sex education and make it available to parents and pupils. Parents can choose to withdraw their children from all or part of sex education, where it is provided”

Learning across the National Curriculum

Promoting spiritual, moral, social and cultural development

Promoting personal, social and health education and citizenship

Promoting skills:

6 Key skills areas:

- Communication
- Application of number
- Information technology
- Working with others
- Improving own learning and performance
- Problem solving

Thinking skills:

- Information processing skills
- Reasoning skills
- Enquiry skills
- Creative thinking skills
- Evaluation skills

Other aspects:

- Financial capability
- Enterprise education (Confidence, self reliance and willingness to embrace change)
- Education for sustainable development (“Green” education)

Please note that the government are constantly tinkering with the above! For example, a move is being made even now to make Sex education mandatory for 5 year olds and upwards.

The curriculum as above applies solely to England. Northern Ireland and Wales follow a similar but not identical curriculum. Scotland has its own education system altogether.

Links to the curricula:

http://www.qca.org.uk/qca_13575.aspx

<http://www.ltscotland.org.uk/5to14/index.asp>

<http://new.wales.gov.uk/topics/educationandskills/curriculumassessment/arevisedcurriculumforwales/nationalcurriculum/?lang=en>

<http://www.nicurriculum.org.uk/>

2. Italian curricula

Elementary education in Italy includes two levels, as follows:

- a) “Scuola dell’infanzia”, (previously called “Scuola materna”) a non-compulsory governmental institution, under the Ministry of Education. Children attend from 2½-3 years up to 5½-6 years. This cycle of education prepares children for primary school and the curriculum is based around playing and other simple didactic activities.
- b) “Scuola primaria” (Primary school, previously called “scuola elementare”): this five-year cycle follows the “scuola dell’infanzia” and precedes the first level of

secondary school (“scuola secondaria di primo grado”, or “scuola media inferiore”).

The Italian curricula for the two abovementioned education levels, are as follows:

Level	Subject	English translation	DDC notation
Scuola dell’infanzia			
	Il corpo e il movimento	Physical education (or education for coordination and movement of the body in space through playing)	372.86
	I discorsi e le parole	Spoken expression skills together with first contact with the written language	372.62
	Esplorazione, scoperta e prima sistematizzazione delle conoscenze sul mondo della realtà naturale e artificiale	Experience and first contact with the real world both natural and artificial	372.357
	Messaggi, forme e media	No English equivalent (many disciplines involved)	???
	Educare alla socializzazione	Education for social behavior (socialization)	
Scuola primaria (Scuola elementare): from grade 1 to grade 4			
	Religione (a non-compulsory course)	Religious studies (education to Christianity and inter-religious understanding)	372.
	Lingua straniera: Inglese (since 2003,	Foreign language: English	372.65’21

	compulsory): simple phrases, numbers, British culture and customs, etc.		
	Italiano	Italian (reading, written and spoken expression, grammar, composition, etc.	372.4 372.6
	Storia	History	372.89
	Geografia fisica e geografia umana	Geography Human geography	372.891 ???
	Matematica, geometria, aritmetica, probabilità, logica, insiemistica	Mathematics geometry, arithmetic, set theory, probabilities, etc.	372.7 [specific numbers needed for geometry, set theory etc.]
	Scienze	Natural sciences	372.357
	Tecnologia e informatica	Technology and computer literacy	372.358 372.34
	Musica	Music	372.87
	Arte ed immagine • painting, sculpture, drawing, creative and manual arts	Creative and manual arts	372.5
	Attività motorie e sportive	Physical education	
	Drammatizzazione	Drama (Theater)	372.66
Scuola primaria: grade 5 (final year) To the subjects listed above are added further subjects			372.83
	Studi sociali	Social studies (the following subjects are usually treated from an interdisciplinary point of view), as follows	372.83 (for comprehensive works)
	• Educazione alla cittadinanza	Civics (Citizenship): • education to politics, civil and political rights, Children's rights, elements of constitutional	372.832

		law, etc.	
	• Educazione stradale	Road safety education	???
	• Educazione ambientale	Environmental studies	373.357
	• Educazione alla salute	Health and hygiene: elements of human physiology, diseases, environmental safety, personal hygiene; drug abuse is not included; sex education is taught as a part of education of emotion and sentimental growth (see below)	372.37
	• Educazione all'igiene alimentare	Nutrition and food education (Cooking is no longer taught)	372.373
	• Educazione all'affettività	Education of emotion and sentimental growth, relationships with adults, same age and multiethnic groups; sex education	???

Some remarks:

- Social studies: it includes many interdisciplinary subjects transversally involved in all other teaching subjects;
- Education to media language (newspapers, TV, motion pictures, advertising etc.): there are no numbers available (372.672: Media production and presentation is a different subject) → *missing notation?*
- Education to multicultural and intercultural understanding in primary schools: could it be included in 372.83?
- 372.54: Sewing and needlework are no longer taught; weaving is taught as part of handicrafts
- “Home economics” in the Italian meaning is no longer taught in primary school. Shouldn't the heading of 372.82 be changed?

3. Norwegian curriculum

Elevrådsarbeid	Student government	*
Mat og helse	Food and health	372.3 372.82
Kroppsøving	Physical education	372.86
Musikk	Music	372.87
Kunst og håndverk	Arts and handicraft	372.5
Norsk	Norwegian language	372.4 372.6 (61-64)
Finsk som 2.språk	Finnish as a second language	**
Fremmedspråk	Foreign languages	372.65
Grunnleggende norsk for språklige minoriteter	Basic Norwegian for language minorities	***
Morsmål for språklige minoriteter	Mother tongue for language minorities	****
Engelsk	English language	372.6521
Matematikk	Mathematics	372.7
Samfunnsfag	History, Society oriented subjects, Social studies , Geography	372.89 372.891 (Geography)
Naturfag	Nature oriented subjects	372.3
Religion, livssyn og etikk	Religion, philosophy of life and ethics	372.84
Utdanningsvalg	Choice of education	*****

Comments:

Source : the newest curriculum for the elementary school.

*

Elevrådsarbeid (student government). This is new as a specific subject. Where should it be classed? 372.159 is not suitable because it is not the student government itself, but a subject for all pupils.

, * and ****

These subjects can illustrate some of the problems with classifying language education. What do we do when Norwegian is neither the mother tongue nor a foreign language? We use 372.65, but what we do if a student has Urdu as the mother tongue, then Urdu is not a foreign language for him or her, but Norwegian is.

***** Utdanningsvalg (Choice of education). The same problem as with Elevråd: Where do we class this as a subject?

It seems that both “Elevrådsarbeid (student government)” and “Utdanningsvalg” (Choice of education) are examples of interdisciplinarity.

4. French curriculum

Level	Subject	In English	DDC notation
Cycle 2 : grande section de maternelle+ CP + CE1	Maîtrise du langage et de la langue française	Language skills and French	372.4 372.6
Last year of kindergarten + fist two years of primary school	Vivre ensemble	« living together » : socialisation	372.82 ??
	Mathématiques	mathematics	372.7
	Découvrir le monde (matière, vivant, informatique, communication)	Biology, computers, communication	372.3
	Langue vivante étrangère	Foreign language	372.65 + T6
	Éducation artistique	Artistic education	372.5 372.87
	Éducation physique et sportive	Physical education	372.86
Cycle 3 : CE2 + CM1 + CM	Littérature (dire, lire, écrire)	Literature (reading, writing, speaking French)	372.4 372.6
Last three years of primary school	Étude de la langue (grammaire)	French grammar	372.61
	Langue vivante étrangère	Foreign language	372.65
	Histoire et géographie	History and geography	372.89
	Vie collective	« Living together »	372.82 ??
	Mathématiques	mathematics	372.7
	Sciences expérimentales et technologie	Science and technology	372.3
	Éducation musicale – arts visuels	Music and visual arts	372.5 372.87
	Éducation physique et sportive	Physical education	372.86
	Maîtrise du langage et de la langue française	Language skills and French	372.4 372.6
	Éducation civique	Civic education	372.832

5. Swedish curriculum

Subject	In English	DDC notation
Bild	Creative arts (literally Picture)	372.52 372.53
Hem-och konsumentkunskap	Home economics and Consumer education	372.82 372.373
Idrott och hälsa	Physical education and health	372.86 372.37
Musik	Music	372.87
Textilslöjd och Trä- och metallslöjd	Needlework and Handicraft	372.54 372.55
Svenska	Swedish language	372.6 372.4
Engelska	English language	372.6521
Matematik	Mathematics	372.7
Geografi, Historia, Religions- och Samhällskunskap / Samhällsorienterade ämnen	Geography, History, Religion and Social studies / Society oriented subjects	372.89 372.84 372.83
Biologi, Fysik, Kemi, Teknik / Naturorienterade ämnen	Biology; Physics, Chemistry, Technology / Nature oriented subjects	372.35 (372.357; 372.358)
Språkval	Language studies	372.65

6. Swiss curriculum

In Switzerland there are today almost as many curricula as there are cantons. In the wake of the Pisa study, efforts were undertaken to harmonize the Swiss school system, but the current project HarmoS is subject to cantonal referendum and the harmonization of the curricula is not a priority.

Nevertheless, at the elementary level the subjects are the following:

Subjects	DDC notations
Speaking and reading skills in one national language (according to region), writing skills included	372.4 372.6
Two foreign languages (at least one of them is a second national language + English)	372.65 +T6
Mathematics	372.7
History and civics	372.89 372.832

Geography	372.891
Science	372.35
Creative arts, and manual arts	372.5
Music	372.87
physical education	372.86

The French-speaking part of Switzerland has already a unified curriculum (PER = Plan d'étude romand) organized around two principal axes:

Teaching subjects	
• Language(s) (reading, writing, foreign languages)	372.4 ; 372.6 ; 372.65
• Mathematics and Science	
- Mathematics	372.7
- Science	372.35
• Humanities and social sciences (Sciences de l'Homme et de la société)	
- History	372.89
- Geography	372.891
- Civics	372.832
- Ethics and religions	372.84 ; 372.83
• Arts	
- Visual arts	372.5
- Music	372.87
- Creative arts (including handicraft)	372.54 ; 372.55
• (Corps et mouvement)	
- Physical education	372.86
- Nutrition and food	372.373
General education	
• Health and safety	372.37
• Social studies (?)/ Social skills	373.83 ; 372.82
• Environment	373.357
• Medias and information technology	373.34 ????
• Educational and vocational guidance	371.42

Comments:

- *Humanities and social sciences: explores relation between man and space (geography = 372.891) and between man and time (history = 372.89XX), but also*

- civics (political education). Another discipline is history of religions, i.e. ethics and religious cultures (=372.84, 372.83).*
- *General education: some of the themes treated here are typically suited for an interdisciplinary approach, e.g. “Environment” will be a subject treated in science as well as in geography.*
 - *Medias and information technology: This is not just about computers, but about all kinds of medias (news papers, TV etc.); how to use the new technology but also how to interpret information → **missing notation?***

The curricula of the German-speaking part diverge but still are quite similar to one another:

Subjects	DDC notations
Natur – Mensch – Umwelt:	???
<ul style="list-style-type: none"> • Religion, ethics, culture 	372.84 372.83
<ul style="list-style-type: none"> • History and social study (including civics) 	372.89 372.832
<ul style="list-style-type: none"> • Home economics (including social skills) (Includes also cooking etc. and probably also health and safety etc.) 	372.82 372.373
<ul style="list-style-type: none"> • Nature (environment) and geography 	372.357 372.891
<ul style="list-style-type: none"> • Science and technology 	372.35
Language (German and “foreign” language: usually a second national language + English); speaking, reading and writing	372.4 372.6 372.65 + T6
Creative arts and music	372.5 372.87
Mathematics	372.7
Physical education	372.86
Plus there are some more interdisciplinary subjects such as educational and vocational guidance, computer science, medias, traffic instruction.	

1. Are the listed subjects too detailed?

In general it seems **the subjects are not too detailed.**

The National Library of Norway uses DDK 5, which is an abridged edition of DDC 21. The level of abridgment is based upon the literary warrant in Norwegian libraries. This is important to bear in mind concerning the question whether “the listed subjects are too detailed” – we have already, through our level of abridgment agreed on how detailed the subject should be.

DDK 5 (Norway) stops at 372.5, and the National bibliography has listed as many as 126 titles here. Many of them contain general views on the subjects of 372.5, but there are still titles concentrating on specific subjects, like sewing painting, handicrafts and so on. Therefore we think it would be an advantage to keep the deeper numbers in DDC 22.

National Library of Switzerland: the subjects are seldom too detailed. There always crop up a number of documents on very specific subjects. Though sewing does not seem any longer as popular a subject as it was fifteen and more years ago, it is still practiced but more as part of “textile creation”.

France: there is no literary warrant for 372.67 / 672 / 674 / 676 / 677

National Library of Florence: the schedule is not too detailed for our needs. The Italian National Bibliography has recorded a great deal of titles in all the subdivisions within the 372.3-372.8 number span, except those for some subjects no longer part of elementary school curricula in Italy and therefore not included in the official curricula established by the Italian Ministry of Education (such as sewing, knitting, embroidery, 372.54). These latter manual activities are today part of the curricula of vocational schools at a middle school level (e.g. vocational schools for girls, previously “Istituti professionali femminili”) and therefore classified in 640. There is no literary warrant for 372.54.

2. Is there too much of an American focus?

In general it seems **there is an American focus in 370 in general but not in 372.3-372.8**

National Library of Florence: the 370 schedule structure is obviously focused on the American and British education system. The specific levels of education and the teaching curricula listed in the schedules do not always correspond to the Italian educational system. The major problem for us consists in accommodating our specific levels of education (early childhood education and learning, pre-elementary and

elementary and education and schools) within those listed in the schedules and the Manual.

In Norway the elementary education, “Førskole og grunnskole” lasts for 10 years. In DDC 5, middle schools (grades 5-8), junior high schools is classed in 373.236. We want to keep the elementary education level (1-10) together. It is an organizational unit, which we do not want to split in Dewey either.

It does not seem to be too difficult for Switzerland to accommodate the levels of education. The elementary education is split in preschool level (kindergarten), Primarstufe (degré primaire/primary level) and Sekundarstufe I (degré secondaire I/lower secondary level). The lower secondary level is the second part of the compulsory education period and so may be regarded as part of elementary education.

3. Is the split relevant between 372.83 (social studies) and 372.89 (history and geography)?

In DDK 5 (Norway) social studies and history/geography are both indexed in 372.89. 372.83 has not been translated. At the elementary school level, these subjects are integrated, and it would be difficult to split them.

Switzerland: It is no longer significant. In the German part of Switzerland there is one branch of study called “Mensch und Umwelt” or sometimes called “Natur – Mensch – Mitwelt” that encompasses social studies, i.e. human interactions in a social or cultural context or with nature.

Italian elementary education system: History and Geography are not part of Social studies. The curricula for Social studies include (according to the latest regulations of the Ministry of Education) the following:

- Environmental studies (Educazione ambientale) (372.357)
- Personal health and safety education (Educazione alla salute e all’igiene) (372.37)
- Social life and social interaction (Educazione all’affettività e alla vita di relazione) (all part of both 372.82 and 372.83).
- Civics, road education, etc. (Educazione alla cittadinanza, Educazione stradale etc. (372.832)

372.83 does not cover our concept of “Social studies”, if the subject is taught at the elementary level.

4. 372.84 Religion

Norway: the teaching of 372.84 Religion includes philosophy of life and ethics. The emphasis is moved from the Christian, religious view to an education where the goal is a knowledge and understanding on the different religions, philosophy of life and ethics. The current curricula is named “Curricula of religion, philosophy of life and ethics”. Should the caption be changed form Religion to Religion, philosophy of life and ethics?

National Library of Florence: the teaching of Religion in elementary schools is not exclusively focused on Christianity and particularly on Catholicism, but on comparative religions and an inter-religious understanding and knowledge. Ethics and morality are not exclusively part of Religion or a property of “believers” only. These two topics in the Italian education system are included in education to life (372.83). If ethics is referred to Religious ethics, it is obviously part of Religion 372.84. We see no need to modify the heading Religion.

UK: Religion has the notes “Class religious education under auspices of religious bodies to inculcate religious faith and practice in 207.5”, and “Class religious education of children under church auspices ... etc ... in 268.432”. This makes the classification of religious education at schools run by the Church of England, Catholic Church, etc., debatable.

France: religions are discussed within the history and geography programmes.

National Library: only one document under 372.84.

Nevertheless more and more documents have recently been published on the relationship between religion and state (“laïcité”) – which is a transversal topic.

5. Where should we class interdisciplinary subjects?

Lately there is a notable tendency to treat some themes or subjects in an interdisciplinary way.

National Library of Switzerland: there is more emphasis on interdisciplinarity (cf “Natur – Mensch – Umwelt” disciplines in the Swiss-german schools)

The class 372.34 Computer seems to be more of an interdisciplinary subject or would be part of a larger subject, “Medienunterricht”, media culture.

National Library of Florence: the material to be classified in 370 has an increasingly interdisciplinary approach. We too feel that more recommendations for interdisciplinary works should be given either in the schedules or in the Manual (even though the Relative index shows interdisciplinary numbers for many topics in 370).

Norway: Where should we class interdisciplinary subjects? There is more emphasis on interdisciplinarity.

Here is an example of interdisciplinary work:

Regnbuen (The Rainbow), a work for use in 1-4 classes <http://regnbuen.cappelen.no/> It has elements from social skills, nature, technology, and more.

Topics from *Regnbuen*, 4th level:

- Landforms
- Gliding, flying (birds, aeroplanes, and so on)
- Family and friends
- Sound
- The first who cultivated the soil
- Farm animals

- The North Pole
- The Bronze age
- From child to adult
- Birds
- Fleeting and sinking
- Life in freshwater

6. Specific subdivisions (04 - 049)

BnF does not use specific subdivisions: since textbooks are not indexed, all classified materials are didactic and therefore 044 would be redundant.

French libraries specialised in education often add an M (for “manuel”) to the call number to make a difference between didactic documents and manuals instead of adding a specific subdivision.

National Library of Florence: among the notations from the add table under 372.3–372.8, those mostly used are: 043 for Curricula and 044 for Teaching methods.

7. Other issues

- Reading and language skills are separated by a rather unrelated subject, namely creative and manual arts; one would expect them to be neighbouring skills.

- **372.7: Mathematics**

France: numeracy and geometry should have their own notations.

The simplest concepts of Mathematical logic (Symbolic logic) are taught in the elementary schools in Italy. Since there are several works published on this subject, a more specific number than 372.7 would be desirable.

- **372.82 Home economics**

The question of the significance of “Home economics” is unclear, given that in Italian culture it is limited to household management (cleaning, cooking, sewing, ironing, shopping, furnishing and internal decoration) in order to create the necessary conditions for harmonious living (see also 640). Previously it was a teaching subject in girls’ middle schools. Is there the same in other European countries?

National Library of France / French libraries specialised in education: 372.82 is not used

UK: This number now seems a bit redundant, once cooking and sewing have been relocated. The note says “Including social skills”, and to class here management of personal and family life. However, Personal health and safety (including Cooking, Sex education and substance abuse education) is at 372.37, under Computers, science, technology, health. Citizenship is under Social studies at 372.832. These sort of subjects

all seem related and in fact come under one heading in our curriculum – Personal, social and health education and citizenship – PSHE and citizenship.

- **352.651 Bilingual instruction**

In some bordering Italian regions where the majority of the population belongs to a different culture, the teaching instruction is bilingual (e.g. in Südtirol, where German, Italian and Ladin are legally equal languages). Therefore, the languages different from the Italian, cannot be considered “foreign” nor classified under 372.652-.659, if the emphasis of the work is on the teaching in two languages (e.g. italiano/tedesco; ladino/italiano). We imagine that, for example, the Spanish colleagues have a similar problem confronting the use of both Catalan and Spanish in elementary instruction. The same can be said for Switzerland, where neither German, French, Italian or Rhaeto-romanian can be considered a foreign language

Same issue in Norway where a minority has Sámi as their first language. There is also Finnish as a second language (very few). And what about teaching on all the different mother tongues of immigrants from different parts of the world? F.eks. Urdu is not a foreign language for the pupils with Urdu-speaking parents.

UK: the position of bilingual populations in Wales and the Highlands of Scotland (Welsh and Gaelic speakers) whose native language is an official language of the UK, and whose early education may take place in that language, is not allowed for.

- **National exams at the end of high school (373.1'262?)**

National exams held throughout Italy at the end of the upper level secondary school, in Italian “esame di maturità”. This is one of the many “esami di stato” in Italy and a necessary step to University entry. This exam is an external one under the supervision of the Ministry of Education, with a commission of external examiners. At the moment we classify the subject heading “Scuola media superiore – Esami di stato” at 373.1'262 [number built adding notation from 371.262 Standardized tests]. We feel that this number is not appropriate, since “esami di maturità” is based on a single examination session (after 5 years of High Middle School) consisting of three written essays and oral exams on various subjects. The whole evaluation of the student is not based on the solution of standardized tests. Is there a similar problem regarding the classification of the “Baccalauréat”?

Appendix II

EPC Exhibit 132-17.2
October 1, 2009

THE LIBRARY OF CONGRESS

Dewey Section

To: Caroline Kent, Chair
Decimal Classification Editorial Policy Committee

Cc: Members of the Decimal Classification Editorial Policy Committee
Karl E. Debus-López, Chief, U.S. General Division

From: Anne-Céline Lambotte, Chair
EDUG 370 Education Working Group
Université de la Méditerranée

Joan S. Mitchell, Editor in Chief
Dewey Decimal Classification
OCLC Online Computer Library Center, Inc.

Re: EDUG 370 Education Working Group (Progress report)

Attached is the report of the EDUG 370 Education Working Group in response to EPC Exhibit 132-17.1.

I. 372.3-372.8 Specific subjects in elementary education

a. Other languages

372.65: Other languages and bilingual instruction

BNCF: Insufficient clarity here: The wording “Other languages” creates ambiguity: it has no meaning, apart from its special meaning in the DDC language: all that is not listed up till now (or mentioned before). We suggest a slightly different but clearer wording:

372.65 *~~Foreign~~Other Specific languages and bilingual instruction

372.651 *Bilingual instruction

Class comprehensive works on bilingual education in 370.1175

BNCF: what does “comprehensive” mean in this context? Would it refer to works which cover various elementary educational levels, or the many components of this topic, as it is in the DDC logic?

b. Comprehensive works/interdisciplinarity

372.3 ~~Computers, Computer science, information, general works;~~ science, technology, ~~health~~

Class here comprehensive works on interdisciplinary studies

Class interdisciplinary studies with a focus on a specific subject with the subject, e.g., environmental studies with components of civics and geography 372.357, writing across the curriculum 372.623

“General works” not being a subject at school, what is meant by the term “general works” in this context?

The notion of interdisciplinarity becomes more and more an issue in teaching. Under the RAMEAU heading “interdisciplinarité dans l’enseignement” in the BnF OPAC are 79 works, among which « Le défi de l’inter- et transdisciplinarité : concepts, méthodes et pratiques innovantes dans l’enseignement et la recherche » ; « Éducation physique et notions mathématiques : cycle 2, CP-CE1 » ; « La interdisciplina en las ciencias sociales » etc. Those works have not been indexed with the same DDC notation but the

prevalent notation seems to be 370.1 pedagogy as no other notation seemed relevant for those works.

Suggestion from BNCf: for works on interdisciplinary approach in elementary teaching at any level, we suggest a class here note, under 372.19, as follows:

Class here comprehensive works on interdisciplinary approach to education at elementary level.

As an interdisciplinary approach is generally found in school textbooks, it would be appropriate to provide a mechanism to express this approach under the different levels of elementary teaching at 372.241-372.42. It could be either a notation to be added, or an expansion. For example, an interdisciplinary textbook for the upper level of elementary school: 372.242 + appropriate notation having the meaning of “interdisciplinary school textbooks”. If no particular level is treated, the work would be classified above in 372.19 (plus appropriate notation or subdivision).

Our opinion is that interdisciplinary school textbooks which cover many subject from 000 to 999, (as the example given by the Norwegian colleague: “Regnbuen” <http://regnbuen.cappelen.no/> should be classed here at 372 and not in 000 (following the DDC instructions).

c. 372.34 Digital literacy vs. Computer literacy

BNCf: (In Italian: Alfabetizzazione digitale vs. Alfabetizzazione informatica)

There are over 90,000 hits on Alfabetizzazione informatica; and 30,000 on Alfabetizzazione digitale in the Italian websites. The situation in Italian OPACs is as follows:

	<i>Alfabetizzazione informatica</i>	<i>Alfabetizzazione digitale</i>
<i>Index of the Italian Union catalogue</i>	<i>21 titles</i>	<i>no titles</i>
<i>Internet culturale</i>	<i>21 titles</i>	
<i>BNCf’s OPAC</i>	<i>30 titoli [including titles of doctoral theses]</i>	<i>no titles</i>
<i>METAOPAC Azalai italiano</i>		<i>3 titles</i>

Therefore, as can be seen from the above: Alfabetizzazione informatica (Computer literacy) is the preferred terminology for titles of Italian publications up till now, even though in current language usage the adjective “digital” would seem to be more frequent.

The Italian subject headings for this topic are the following.

Informatica – Insegnamento;

Informatica – Testi per l’insegnamento

We are currently evaluating the possibility to introduce a new subject heading for “Alfabetizzazione informatica”.

II. Levels of education

- a. In EPC Exhibit 128-22, it was recommended changing the caption at 372 from “Elementary education” to “Primary education (Elementary education),” and the caption at 378 from “Higher education” to “Tertiary education (Higher education).”

*372 **Primary education (Elementary education)** is a relevant caption.*

*We suggested keeping **Higher Education** for 378 when we met in Florence. It is more commonly understood than tertiary which is used in a political context.*

In the UK Tertiary would also be considered a political usage.

In Italy, Tertiary education has begun to be used in socio-political language, but is not yet adopted in publications about education in Italy (where both phrases “Istruzione superiore” or “Istruzione universitaria” are mostly used); see also the Italian website of Bologna Process:

<http://www.unibo.it/Portale/Relazioni+Internazionali/DimensioneInternazionale/Processo+di+Bologna/default.htm>

Nevertheless we do not all agree on this. Indeed in Germany, "Tertiary level" is preferred because "Higher education" sounds like "Höhere Schule" (= 373 Sekundarschule).

b. Elementary education

- 372 Primary education (Elementary education)

Class here elementary schools, ~~grade schools, grammar schools (United States), junior schools (United Kingdom), primary schools (United Kingdom)~~; lower sections of all-age-schools

For adult elementary education, see 374.012

We mentioned this at the IFLA pre-conference in Florence and suggested to drop the terms that were too specific to a national curriculum (UK in this case) – these new caption and notes are fine.

In the UK, infant and junior schools – infant was ages 3 or 4 to 7, junior from 7-11 - tended to be separate institutions on separate sites. These days, they tend to be one single institution, and are described as primary schools, so the reference to junior schools is not really relevant anymore. Similarly the notes at 372.241 and .242.

If references to junior schools are taken out here it may have a further effect, for example at 373.236.

NB Norway and Sweden: the primary education = compulsory education, and lasts from grade 1- 10. In DDK 5 372.243 is used to express the upper level (8. – 10). Elementary education from 1-10 is an administrative and political unit, even if the pupils often change school at grade 8.

The problem is very significant for titles to be classified in 372.11 – 372.18 and 373.11-373.18. Maybe it would be useful to make a literature study?

What was suggested in Florence was to create an option in the standard edition, which, for Norway and Sweden, could become a standard number.

- **372.21 Preschool education and kindergarten**

*The difference between pre-school and pre-primary was not much reacted upon. As far as French terminology is concerned, it seems the term “pré-scolaire” may be more used in a Canadian context that “pré-primaire.” We would therefore suggest using **preprimary education** instead of preschool education*

NB (French DDC): the captions for 372.216 (Écoles maternelles) and 372.218 (Jardins d’enfants) are not correctly translated in the French version of DDC – which may imply the notions of nursery schools and kindergartens are not widely understood (?)

The BnF does not use 372.216 but prefers 372.21

Suggestion from the BNCF: *This subdivision should be reserved for the education of children from an early age to 5 or 6 years, either as part of a compulsory study course or not. School institutions, which are generally similar but known under different names, according to the various countries and educational systems (e.g., kindergarten, nursery schools, asili-nido, scuole materne, scuole dell’infanzia, ecoles maternelles etc.) should be mentioned in a “class here note”.*

Therefore, the 372.21 caption should be changed to: Preschool education (deleting “and kindergarten”) and both subdivisions 372.216 and 372.218 should be deleted.

Switzerland : Preschool, elementary and secondary level

The compulsory education comprises 4 to 6 years (according to the cantons) at a primary school (372) and the following lower secondary level (373.236?).

It is rather easy to match most of the levels of preschool, elementary and secondary schools with the existing DDC, excepting that the primary school is not split in levels and also distinct from preschool education which makes it somewhat awkward for classifying documents concerning primary school only (i.e. not including pre-school education). As there is no separate entry for primary schools as a distinct level of elementary education I class these documents in 372.

Though the lower secondary level (373.236) is subdivided into 2 or 3 school types, it is not very easy to distinguish them in the documents, moreover the names differ from canton to canton. So 373.236 is probably sufficient.

The upper secondary level (373.238) is subdivided into general education (Matura schools) = 373.24 and vocational education (specialised middle schools = Fachmittelschulen) = 373.246.

- **372.24: Specific levels of elementary education**

The BNCF agrees with the caption as it is written. The Italian translation is identical and corresponds to the various levels listed by the 1997 UNESCO document.

- 372.41 Lower level

Here we recommend deleting types of schools from the class-here note and moving them to the index. We recommend dropping “Primary schools (United States)” from the schedule and index.

Deleting anything too specific to a country seems relevant.

c. Adult education

France: Professional development gains importance (*formation tout au long de la vie* in French) as employers are obliged to facilitate it for their employees. Employees who may have not studied for a long time (but not only them) are therefore given the opportunity to get trained during their professional life.

A few years ago was born the « Agence Europe-Education-Formation » with the goal of promoting adult education and stressing its importance in the framework of European education programmes

BNCF: *In Italian usage, the expression “adult education” refers to two concepts:*

a) those courses and curricula for adults which correspond to the same level and content of regular school courses (e.g. middle schools for adults, technical schools for adults etc.), and

b) courses and curricula for obtaining diplomas necessary for an occupation (e.g. hairdresser, craftsman, beautician etc.).

d. Higher education

In class 378, we recommend changing the caption from “Higher education” to “Tertiary education (Higher education) to match international terminology.

*We recommended maintaining **Higher education** in Florence – see above.*

Can we learn anything from the EC’s efforts in curricular reform (the Bologna Process) to improve the presentation in 378?

*The **Bologna process** has transformed European curricula. Instead of delivering diplomas after 2 years (DEUG in France); 3 years (Licence in France); 4 years (Maîtrise) and then the PhD, diplomas are now delivered after*

- **3 years (Licence – Bachelor’s degree)**
- **5 years (Master)**
- **PhD**

Parallel to this system based on universities, there still are 2-year programs with a more “technical” or “professional” content (BTS or IUT in France)

Therefore the current development of 378.15 is correct as far as mentions of four-year colleges are deleted.

378.154 2 corresponds to the European Licence (3 years)

378.154 3 corresponds to a 2-year program

378.155 corresponds to the master’s degree and PhD

The aim of the Bologna process consists in giving homogeneity to diplomas obtained in different European countries and therefore promoting the mobility of scholars. Credits can be transferred between universities.

*The PhD does no longer consist only of a dissertation but now includes professional credits. Partnerships with industries/firms will be established. This link between universities and professional environments is something new that DDC should take into account. **Fundamental research and applied research** are now intertwined.*

*New labels “**university of excellence**” (pôles d’excellence) will emerge as universities will be looking for their own fundings and partnerships with industries/firms (states will disengage themselves). With this notion of excellence goes the notion of **university attractiveness**.*

*Another trend which DDC should take into account is emerging through the Bologna process: the **involvement of students** in the life/administration of their institution whatever their level is (junior high school; high school; university etc)*

Processo di Bologna in Italy

Following the declarations of Bologna Process, as indicated above:

- *adoption of a system of qualification readily legible and compatible, also by means of the implementation of a Diploma Supplement;*
- *adoption of a system founded upon a two-cycle system, that is a First and Second level. Entrance to Second level cycle will require the completion of a first cycle of study, the duration of which must not be less than three years.*
- *Consolidation of a system of academic credits - based on the ECTS system -that can be acquired in diverse disciplinary contexts.*

La durata degli studi universitari sta cambiando, eThe present Italian University (D.M. 270/04) is changing.

According to the recent University reformation - Secondo quanto previsto dall'ultima [riforma universitaria](#), la trasformazione dei curricula dal precedente ordinamento didattico (D.M. 509) has begun since the 2008/2009 academic year and will be completely put into effect by 2011. Therefore, the levels of higher education by law are two in Italy:

- 1. "laurea" or "laurea di primo livello" (three-year degree)*
- 2. "laurea specialistica" or "laurea magistrale" (two years after degree).*

There are also one-cycle degrees (laurea a ciclo unico), whose duration varies from 4 to 6 years. Such courses are obligatory for certain faculties preparing to obtain the necessary qualifications for practising a regulated profession, in order to guarantee completeness and uniqueness of education, as the following:

Medicine and Surgery (6 years), Dentistry and Prosthodontics (5 years), Veterinary medicine (5 years), Pharmaceutical chemistry and Pharmaceutical technology (5 years), Architecture (5 years), Civil engineering (5 years), Law (5 years), Primary education sciences (4 years).

Switzerland : Tertiary education

The tertiary education in Switzerland is quite different from the Anglo-American system. There is a distinction between higher vocational training (Höhere Fachschulen) and universities. The universities are divided into the universities proper and the universities of applied sciences (Fachhochschulen), which include the universities for art and music and teacher training universities.

At the universities proper, the Bachelor and Master certificates may be followed up by further studies leading to a Ph.D or by postgraduate studies (Master of Advanced Studies).

Should PhDs be distinguished from other grad schools?

BNCF: PhD (Italian equivalent: Dottorato di ricerca): corso universitario di studi successivo al conseguimento della "laurea magistralis" (second level degree), and valid in contexts of scientific research only. The Italian doctorate is obtained after having successfully attended a course lasting several years (to which candidates are usually admitted after succeeding a state exam or public competition) and carried out original studies or research in a given disciplinary sector or interdisciplinary sectors. Normally, Italian doctorate does not give qualifications for practicing a profession, being obligatory, for that purpose, a state exam.

In Italian catalogues, there is little literary warrant for this topic, as indicated below:

- *BNCF's OPAC: 11 titles* (<http://www.bncf.firenze.sbn.it/pagina.php?id=36>), *classed both in 378 and 344.*
- *Index of the SBN Union catalogue (Servizio bibliotecario nazionale): 19 titles* (legal works prevail), ([http://www.internetculturale.it/moduli/opac/opac.jsp?rigamenu=OPAC%20Indice%20SBN%20\(nuova%20versione](http://www.internetculturale.it/moduli/opac/opac.jsp?rigamenu=OPAC%20Indice%20SBN%20(nuova%20versione)
- *MetaOpac Azalai italiano: 4 titles classed in 378.*

Although there is a little amount of works on this topic, an appropriate number would be useful in a foreseeable future, as the post-degree education, following the Bologna Declaration is increasingly growing in EU countries (and literature too will be produced on these topics).

Appendix: Levels of education in Switzerland

The following overview on Swiss school levels is extracted from the Swiss Education Server (www.educa.ch) which has been implemented with an English version. This site is very useful for all questions on education in Switzerland.

Educational levels and categories

The Swiss educational system comprises the following educational levels or categories:

- Pre-school
- Primary school
- Lower secondary Level
- Upper secondary level: The upper secondary level comprises vocational education and further general education (specialised middle schools (Fachmittelschulen - FMS) and Matura schools).
- Tertiary level: The tertiary level consists of higher vocational training and universities. Higher vocational education comprises the professional and higher specialist examinations as well as the higher specialist schools (Höhere Fachschulen; HF). The universities are divided into the universities proper (cantonal universities and Swiss Federal Institutes of Technology) and the universities of applied sciences (Fachhochschulen - FH), which include the universities for art and music and teacher training universities (Pädagogische Hochschulen - PH).
- Quartary levels: Further education
- Special education.

Pre-school level

In Switzerland a distinction is made between pre-school ("Kindergarten", "école enfantine", "scuola dell'infanzia") and childcare outside the family (day nurseries, day-care mothers, play groups). By 1970, the kindergarten (or the "école enfantine" in Western Switzerland and the "scuola dell'infanzia" in Ticino) was legally established in all of the cantons in Switzerland. In the majority of the cantons the pre-school education is regulated by school law and the corresponding school regulations. Some cantons have their own kindergarten law.

[Note: the Kindergarten attendance is not compulsory in all the cantons]

Convergence of kindergarten and schools

In the mid 1980s there were increasing endeavours to bring kindergarten and school closer together. Since the 1990s, in particular, numerous studies have dealt with questions concerning the renewal of the school introduction phase. Realignment concerns the following aspects: more flexible admission age to primary school, early encouragement of cultural skills, heterogeneous classes (heterogeneity concerning age, development, talent, origin, etc.) and didactic innovations. At the moment projects are

being carried out in numerous cantons where the amalgamation of the kindergarten years with the first years of school is being tested and evaluated.

....

In Switzerland, a discussion is underway regarding a flexible transfer from the pre-school level to primary school and the reorganisation of the entry phase of the school. The basic or elementary level has been developed for children between four and eight years of age. The age of entry and the age when leaving for the first school levels are flexible and take the development status of the children into account. Depending on the model, two kindergarten years are combined with the first two primary level years (basic level: -2/+2) or the first two kindergarten years are merged with the first primary level year (elementary level: 2/+1).....

Curricula

Teaching and learning methods in kindergartens and the first school years have converged. Numerous cantons have introduced new kindergarten curricula. The activities in the kindergartens include teaching and learning processes and follow systematic and binding goals.

Primary level

Children enter Primary school at six years of age at the earliest. School attendance is obligatory and free of charge for all children.

One of the main goals of Primary school is to attain a balanced relationship between social, personal and technical abilities. Principally, children attend the school in their place of residence.

The Primary school lasts six years in 20 of the cantons and in the other cantons four or five years. In comparison to the lower secondary level, children at the primary level are not divided into types of schools with achievement groups.

Curriculum

Most of the cantons have revised their curricula for the lower secondary level in recent years. New curricula are characterised by an increasingly binding nature, with precise statements made concerning the expected performance of the pupils.

In Western Switzerland, a framework curriculum has been developed that aims to harmonise the Western Swiss curricula. The "Plan d'études cadre romand" (PECARO) defines the goals in the form of competences and specifies minimum expectations of the pupils and the schools. PECARO formulates the goals for the pre-school level and compulsory school. Different versions of this framework plan are foreseen for teachers, developers of teaching aids and curricula, as well as parents.

In German-speaking Switzerland, a discussion has been initiated regarding whether or not a common curriculum should be developed for the primary schools in German-speaking Switzerland.

Lower secondary level

The lower secondary level follows the primary level. It is the second part of the compulsory education period. The lower secondary level provides a basic general education. It prepares for a vocational education or for the transfer to a general education school at the Secondary II level (Matura school, specialised middle schools, among others).

Schools at the lower secondary level are supported by the municipalities and the canton. The canton determines, moreover, the learning objectives and stipulates the curricula. In 20 cantons the lower secondary level begins with the seventh class, in six cantons with the fifth or sixth class. Pupils between 12 and 16 years of age are at the lower secondary level.

Types of schools at the lower secondary level

In the majority of the cantons the lower secondary level are sub-divided into two to three different types of schools according to the performance groups:

- Types of schools with basic courses
- Types of schools with expanded courses. The cantons run two types of schools: one type of school with a medium grade of courses and one with higher courses.

A minority of the cantons do without different types of schools on the lower secondary level.

The structure of the lower secondary level are not uniform within the cantons. Tests are being made with different models in the different cantons that should make transfer easier between the different types of schools.

School types with basic courses

In the majority of the Swiss German cantons the school type with basic courses is a "Realschule" or also an "Oberschule", a "Berufswahlschule", "Werkschule", or, in Western Switzerland, "section pratique", "section moderne", "section préprofessionnelle", or "classes à options". These schools promote the practical abilities and the general education of the pupils and prepare for apprenticeships.

School type with expanded courses

The school types with expanded courses are called, depending on the canton, "Sekundarschule", "Bezirksschule", "Mittelschule", "progymnasiale Abteilung", "Untergymnasium", "section moderne", "division supérieure", "division gymnasiale". They expand the general education and prepare for Matura schools, intermediate diploma schools, for vocational full-time schools, or for more demanding apprenticeships.

Education at upper secondary level

After nine years of compulsory education, adolescents pass over to the upper secondary level. The upper secondary level is split up into general education and vocational education. General education students are students of Matura schools and Specialised middle schools (Fachmittelschulen). The vocational education can be enhanced with tuition in the vocational schools or in a full time school during the vocational training, such as training workshops or full-time vocational schools.

Graduation

Education at upper secondary level lasts from two to four years. Approx. 90% of the adolescents in Switzerland graduate with a certificate. Successful vocational education ends with the corresponding graduation certificate.

Depending on the type of graduation at the upper secondary level, studies at the tertiary level can begin - either at university (universities, Federal Institutes of Technology (ETH), universities of applied sciences(FH), vocational education at tertiary level (Higher Universities of applied sciences(HF), vocational exams, higher vocational exams).

Development of the upper secondary level

Universities and universities of applied sciences and employment organisations have influenced the development of the upper secondary level since the beginning of the 19th century. The upper secondary level is currently undergoing a process of reform. Significant goals of this reform are facilitating access from one type of school to another, improving coordination and a generally enhancing quality.

Basic vocational education

Basic vocational education lasts between two and four years:

- The two year basic education has replaced the "Anlehre" form of basic vocational training. Qualification is in the form of a Federal professional certification. The two year basic education allows predominantly practically oriented adolescents to gain a recognised professional qualification.
- The three or four year basic education is completed with the corresponding federal certificate and prepares the adolescents for specific professional training.
- The vocational Matura (Berufsmatur) is an enhancement of the three or four year basic vocational education. The associated federal certificate is an integral element of the vocational maturity degree. The vocational Matura can be acquired in two ways: either through attending a corresponding school with a subsequent final exam (in parallel to the basic vocational education or after a concluded basic vocational education) or, independent of any school, in the form of the federal vocational Matura exam after the basic vocational education has been completed. The duration of such vocational education is at least six semesters.

.....

Vocational education is provided at company of employment, vocational schools, and in cross-company courses.....

Matura schools (Gymnasium/Mittelschule)

Matura schools are located in all cantons. In an extensive reform of education leading to Matura, a system allowing pupils some choice and made up of basic subjects, an in-depth subject and a supplementary subject has replaced the previous types of Matura. The schooling from the first primary classes until the Matura takes at least 12 school years. The actual commencement of the Matura school is after the obligatory schooling period (short Matura school period of three to four years), in several cantons it can also begin earlier (longer Matura school period of six to seven years).

Specialised middle schools (Fachmittelschulen):

Specialised middle schools (FMS) prepare pupils for higher vocational education (universities of applied sciences [FH]) in the fields of healthcare, social sectors, pedagogics, communication and information (applied linguistics), design and arts, music and theatre as well as applied psychology.

Curriculum: Specialised middle schools (Fachmittelschulen) make the preparations for higher vocational training (universities of applied sciences [FH]) in the fields of healthcare, social sectors, pedagogics, communication and information (applied linguistics), design and arts, music and theatre as well as applied psychology. The vocational training at Specialised middle schools up until the first achievements (upper secondary level Achievement) takes three years.

Tertiary level

The tertiary level comprises training in the scope of higher educational education and of the universities:

Higher vocational education:

- Vocational and higher university degree
- Higher technical schools

Higher vocational education on the tertiary level prepares students for responsible positions in specific occupational fields. Students must be in possession of a federal certificate (Fähigkeitszeugnis), higher general educational qualification or a similar qualification.

The universities of applied sciences offer courses and post diploma studies for the areas of engineering, catering and hotel industry, tourism and domestic economy, economics, agriculture and sustainable forestry, healthcare, social work and further education; arts and presentation.

Universities:

- Universities (cantonal universities as well as Federal Institutes of Technology (ETH))
- Universities of applied sciences (FH) including universities of art and music as well as universities of teacher education (PH)

The cantonal universities offer courses in theology, humanities and social science, mathematics and natural science, law, economics, medicine and pharmaceuticals, the Federal Institutes of Technology (ETH) offer courses in natural and engineering science, architecture, mathematics, pharmaceutical science as well as sport and military science.

The universities of applied sciences (FH) provide more practice-oriented courses in the areas of engineering and information technologies, architecture, construction and planning nature, chemicals and life science, agriculture and forestry, economics and services, design, healthcare, social work, arts, music theatre, as well as applied psychology and applied linguistics. The universities of teacher education (PH) are responsible for the training of the teachers.

Continuing education

Traditionally, education has been understood to comprise three levels (primary, secondary and tertiary level). However, a more comprehensive understanding of education is becoming generally accepted that comprises a fourth level called continuing education or adult education. The term continuing education is not meant to suggest that there is an even higher education level than the tertiary level. What is meant is that adult education as the fourth main area of the education system differs substantially from the other three levels in the sense that it is directed at adults. Only those extra-curricula content areas are treated that are useful in connection with the experiences gained in an adult's private and professional life. The term of continuing education not only implies self-reliance but also underlines the connection to the other three areas or levels. The similarities of the numerous contents (general and professional basic proficiencies, scientific systematics, etc.) also result in overlapping that can be proved useful.

Adult continuing education

Today, continuing education for adults is on its way to being integrated as an integral element of the education system. It is based on the acquired competences of the primary, lower and upper secondary levels and the tertiary level as well as on the experiences gained in people's professional, social and private lives. School education, professional training and continuing education are therefore closely related.