

Appendix B

Elements of XK Subcomponents Identified From Preliminary Sample

| Domain | Component in record | Dimension | Records |
|---------------------------------|--|--------------------|---|
| Micro (n = 10) | Available resources | Resources | Porras-Hernández & Salinas-Amescua (2013) |
| | Restrictions posed by resources (textbooks) | Resources | Jimoyiannis (2010) |
| | Teacher's and students' expectations, beliefs, preferences, and goals | Social | Porras-Hernández & Salinas-Amescua (2013) |
| | Teacher-student interactions/relationship | Social | Jang & Tsai (2013), Liang et al. (2013) |
| | Practical knowledge, classroom workings, classroom organizational knowledge, learning environment management | Social | Angeli & Valanides (2009), Jang & Tsai (2013), Jimoyiannis (2010) |
| | Norms and policies | Social | Porras-Hernández & Salinas-Amescua (2013) |
| | Lesson topic and activities | Content | Lin et al. (2013), Pamuk et al. (2013) |
| | Demands for teaching a specific content (specific TK, PK, and CK), ICT integration | Content | Liang et al. (2013), Otrell-Cass et al. (2012) |
| | Evaluation of students' understanding | Content | Chen & Jang (2013) ^a , Jang & Tsai (2012; 2013) |
| Meso (n = 4) | Curricular material | Resources | Jimoyiannis (2010) |
| | School-specific technological availability and use | Resources | Hsu (2012) |
| | Time | Resources | Jimoyiannis (2010) |
| | Economic conditions | Resources | Porras-Hernández & Salinas-Amescua (2013) |
| | Teacher-peers, administrators, parents | Social | Porras-Hernández & Salinas-Amescua (2013) |
| | Social, cultural, political, organizational conditions | Social | Porras-Hernández & Salinas-Amescua (2013) |
| | School culture | Social | Jimoyiannis (2010) |
| | School expectations and values | Social | Angeli & Valanides (2009) |
| | Curriculum | Content | Jimoyiannis (2010) |
| Exam-oriented goals | Content | Jimoyiannis (2010) | |
| Macro (n = 3) | Economic conditions | Resources | Porras-Hernández & Salinas-Amescua (2013) |
| | Equipment | Resources | Porras-Hernández & Salinas-Amescua (2013) |
| | National teacher training programs | Resources | Porras-Hernández & Salinas-Amescua (2013) |
| | Social, cultural, political, organizational conditions | Social | Porras-Hernández & Salinas-Amescua (2013) |
| | Educational policies and initiatives | Social | Porras-Hernández & Salinas-Amescua (2013) |
| | Educational purposes, values and goals | Content | Angeli & Valanides (2009), Jimoyiannis (2010) |
| | Relevance of ICT for human activities | Content | Porras-Hernández & Salinas-Amescua (2013) |
| Teacher (n = 3) | Self-awareness | Social | Porras-Hernández & Salinas-Amescua (2013) |
| | Experience | Social | Angeli & Valanides (2009) |
| | Pedagogical beliefs | Social | Angeli & Valanides (2009), Jang & Tsai (2013) |
| Student ^b (n = 5) | Individual characteristics | Social | Liang et al. (2013) |
| | Self-esteem | Social | Porras-Hernández & Salinas-Amescua (2013) |
| | Attitudes | Social | Porras-Hernández & Salinas-Amescua (2013) |
| | Motivation | Social | Porras-Hernández & Salinas-Amescua (2013) |
| | Interests | Social | Porras-Hernández & Salinas-Amescua (2013) |
| | Prior knowledge | Social | Chen & Jang (2013) ^a , Jang & Tsai (2012; 2013) |

| | | |
|---|--------|---|
| Misconceptions, preconceptions | Social | Chen & Jang (2013) ^a , Jang & Tsai (2012), Porras-Hernández & Salinas-Amescua (2013) |
| Strengths | Social | Porras-Hernández & Salinas-Amescua (2013) |
| Learning difficulties | Social | Chen & Jang (2013) ^a , Jang & Tsai (2012) |
| Individual needs | Social | Jang & Tsai (2013) |
| Family/home environments and activities | Social | Porras-Hernández & Salinas-Amescua (2013) |

Note. The first column presents the coded domain according to Porras-Hernández & Salinas-Amescua (2013) as well as the number of records including components (specified in the second column) falling within that domain. The third column presents the dimensions inductively derived. ^aRecord adopted Jang and Tsai's (2012) instrument (including contextualized PCK and TPCK) but did not explicitly define the contextual elements of the scale in text, thus elements were inferred from the original source. ^bIn one record (Angeli & Valanides, 2009), knowledge of students is recognized as its own domain of knowledge, independent of XK.
