

Characteristics of studies investigating the effect of factors included in the dynamic model used for the synthesis presented in Chapter 4 of the book “Kyriakides, L., Creemers, B.P.M, Panayiotou, A., & Charalambous, E. (2021). *Quality and Equity in Education: Revisiting Theory and Research on Educational Effectiveness and Improvement*. London and New York: Routledge.” (see Table 1 below)

Table 1: Number of studies per category concerned with the following study characteristics: a) country/region where the study was conducted, b) research design of the study, c) interest to measure the long-term and/or the short-term effect of the factor addressed, and d) use of multilevel modelling techniques

| Factors of the dynamic model | Data drawn from | | | | | Research design | | | | Searching for the | | |
|--|-----------------|----------------------------------|--------|----------------------|-------|-----------------|-----------------------------------|------------------|-------|-------------------|-------------------|---------------------|
| | U.S.A. | Other English speaking countries | Europe | Developing countries | Other | Cross-sectional | Longitudinal (more than one year) | One year studies | Other | Long term effect | Short term effect | Multilevel analysis |
| Student-level | | | | | | | | | | | | |
| Aptitude | 16 | 5 | 33 | 5 | 7 | 7 | 23 | 20 | 10 | 20 | 40 | 51 |
| Perseverance | | | 2 | | | 1 | | 1 | | | 2 | 2 |
| <i>Variables related to specific learning tasks:</i> | | | | | | | | | | | | |
| · Time on task | 2 | 3 | 3 | | 1 | | | 7 | 2 | | 9 | 3 |
| · Opportunity to learn | 6 | 1 | 7 | 1 | 3 | 7 | 4 | 3 | 2 | 3 | 15 | 15 |
| <i>Factors that are unlikely to change:</i> | | | | | | | | | | | | |
| · SES | 17 | 7 | 31 | 13 | 6 | 16 | 23 | 12 | 12 | 20 | 45 | 55 |
| · Ethnicity | 18 | 3 | 19 | 3 | 3 | 10 | 16 | 6 | 6 | 13 | 26 | 33 |
| · Gender | 13 | 7 | 34 | 4 | 7 | 12 | 21 | 12 | 10 | 17 | 40 | 51 |
| · Personality traits | | | 1 | | 1 | | | 1 | 1 | | 2 | 1 |
| <i>Factors that change over time:</i> | | | | | | | | | | | | |
| · Expectations | 2 | 1 | 7 | 2 | 2 | 1 | 3 | 2 | 4 | 2 | 8 | 8 |
| · Subject motivation | 5 | 4 | 9 | 3 | 5 | 3 | 2 | 4 | 9 | 1 | 17 | 10 |
| · Thinking style | | | 1 | | | | | 1 | | | 1 | 1 |

| Factors of the dynamic model | Data drawn from | | | | | Research design | | | | Searching for the | | |
|---|-----------------|----------------------------------|--------|----------------------|-------|-----------------|-----------------------------------|------------------|-------|-------------------|-------------------|---------------------|
| | U.S.A. | Other English speaking countries | Europe | Developing countries | Other | Cross-sectional | Longitudinal (more than one year) | One year studies | Other | Long term effect | Short term effect | Multilevel analysis |
| Classroom- level | | | | | | | | | | | | |
| Orientation | 3 | 3 | | | 1 | | 2 | 4 | 1 | | 7 | 2 |
| Structuring | 3 | 2 | 7 | 1 | | 3 | 4 | 5 | | | 12 | 7 |
| Modelling | 4 | 2 | 4 | | 1 | 1 | 3 | 4 | 2 | | 10 | 4 |
| Application | 3 | 3 | 6 | 1 | 2 | 2 | 1 | 8 | 2 | | 13 | 8 |
| Questioning | 2 | 3 | 4 | | 1 | 1 | 1 | 7 | | | 9 | 4 |
| Assessment | 2 | 2 | 6 | 1 | 1 | 2 | 4 | 4 | 1 | | 11 | 6 |
| Management of time | 2 | | 6 | 1 | | 1 | 3 | 5 | | | 9 | 6 |
| Classroom as a learning environment | 5 | 2 | 9 | 3 | 3 | 3 | 4 | 7 | 3 | 1 | 16 | 10 |
| School-level | | | | | | | | | | | | |
| <i>School policy on teaching and actions taken to improve teaching:</i> | | | | | | | | | | | | |
| A) Quantity of teaching | 4 | 1 | 7 | 1 | 4 | | 1 | 9 | 2 | 2 | 11 | 10 |
| B) Provision of learning opportunities | 3 | 1 | 6 | 1 | 4 | 3 | 1 | 7 | 4 | 1 | 14 | 9 |
| C) Quality of teaching | 2 | 1 | 6 | 1 | 2 | 1 | 2 | 5 | 2 | 1 | 9 | 8 |
| Evaluation of the effect of school policy on teaching and actions taken to improve teaching | | | 3 | | | | | 3 | | | 3 | 3 |

| Factors of the dynamic model | Data drawn from | | | | | Research design | | | | Searching for the | | |
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| | U.S.A. | Other English speaking countries | Europe | Developing countries | Other | Cross-sectional | Longitudinal (more than one year) | One year studies | Other | Long term effect | Short term effect | Multilevel analysis |
| <i>Policy on the learning environment of the school and actions taken to improve the school learning environment:</i> | | | | | | | | | | | | |
| A) Student behaviour outside the classroom | 2 | 1 | 3 | | 2 | 1 | 2 | 3 | 2 | 1 | 7 | 6 |
| B) Teacher collaboration | 6 | 2 | 7 | 2 | 2 | 5 | 7 | 3 | 1 | 3 | 13 | 12 |
| C) Partnership policy | 2 | 2 | 6 | 1 | 1 | 1 | 3 | 7 | 1 | 1 | 11 | 8 |
| D) Provision of sufficient learning resources to students and teachers | 14 | 6 | 8 | 10 | 9 | 13 | 7 | 6 | 9 | 5 | 31 | 28 |
| E) Values in favour of learning | | 1 | 1 | | 1 | 1 | 1 | 1 | | | 3 | 2 |
| Evaluation of the learning environment of the school | 1 | | 3 | | 3 | 1 | | 5 | 1 | 1 | 6 | 7 |

Characteristics of studies investigating the effect of factors not included in the dynamic model used for the synthesis presented in Chapter 4 of the book “Kyriakides, L., Creemers, B.P.M, Panayiotou, A., & Charalambous, E. (2021). *Quality and Equity in Education: Revisiting Theory and Research on Educational Effectiveness and Improvement*. London and New York: Routledge.” (see Table 2 below)

Table 2: Number of studies per category concerned with the following study characteristics: a) country/region where the study was conducted, b) research design of the study, c) interest to measure the long-term and/or the short-term effect of the factor addressed, and d) use of multilevel modelling techniques

| Factors addressed | Data drawn from | | | | | Research design | | | | Searching for the | | |
|---|-----------------|----------------------------------|--------|----------------------|-------|-----------------|-----------------------------------|------------------|-------|-------------------|-------------------|---------------------|
| | U.S.A. | Other English speaking countries | Europe | Developing countries | Other | Cross-sectional | Longitudinal (more than one year) | One year studies | Other | Long term effect | Short term effect | Multilevel analysis |
| Student-level | | | | | | | | | | | | |
| <i>Family-Parental characteristics</i> | | | | | | | | | | | | |
| Mother’s age at their birth | | | 1 | | | | | | 1 | 1 | | |
| Mother's locus of control | | | 1 | | | | | | 1 | 1 | | |
| Family structure: type and size | 1 | 1 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 3 | 5 | 6 |
| Parents’/mother’s physical and mental health | | | 2 | | | | | 1 | 1 | 1 | 1 | 1 |
| Mother's alcohol use & smoking in pregnancy | | | 1 | | | | | | 1 | 1 | | |
| Non-maternal childcare | | | 1 | | | | | | 1 | 1 | | |
| <i>Students background characteristics and experiences:</i> | | | | | | | | | | | | |

| Factors addressed | Data drawn from | | | | | Research design | | | | Searching for the | | |
|--|-----------------|----------------------------------|--------|----------------------|-------|-----------------|-----------------------------------|------------------|-------|-------------------|-------------------|---------------------|
| | U.S.A. | Other English speaking countries | Europe | Developing countries | Other | Cross-sectional | Longitudinal (more than one year) | One year studies | Other | Long term effect | Short term effect | Multilevel analysis |
| Age | 3 | 1 | 9 | 1 | 2 | 5 | 2 | 2 | 3 | 3 | 10 | 9 |
| Birth weight | | | 1 | | | | | | 1 | 1 | | |
| Birth order | | | 1 | | | | | | 1 | 1 | | |
| Breastfeeding | | | 1 | | | | | | 1 | 1 | | |
| Computer and internet use at home | 2 | 1 | 2 | 1 | 1 | 1 | | | 2 | | 3 | 2 |
| Out-of-school activities not related to learning | | 1 | | | | | 1 | | | | 1 | 1 |
| <i>Psychological perspective:</i> | | | | | | | | | | | | |
| Self-efficacy | 1 | 2 | 2 | 1 | 2 | | | 3 | 2 | | 5 | 3 |
| Self-concept | 1 | 2 | 5 | | | 1 | 1 | 1 | 4 | | 7 | 6 |
| Classroom-level | | | | | | | | | | | | |
| <i>Teacher background characteristics:</i> | | | | | | | | | | | | |
| Teacher gender | 2 | 1 | 6 | 1 | | 3 | 5 | 1 | 1 | 2 | 8 | 9 |
| Teacher ethnicity /race | 1 | | | | | | 1 | | | 1 | | 1 |
| Teaching experience | 6 | 1 | 6 | 1 | | 2 | 8 | 3 | 1 | 3 | 11 | 11 |
| Teacher knowledge | 3 | | | | | | 2 | 1 | | | 3 | 1 |
| Teacher qualifications | 11 | | 3 | 6 | 1 | 6 | 9 | 5 | | 5 | 16 | 13 |

| Factors addressed | Data drawn from | | | | | Research design | | | | Searching for the | | |
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| | U.S.A. | Other English speaking countries | Europe | Developing countries | Other | Cross-sectional | Longitudinal (more than one year) | One year studies | Other | Long term effect | Short term effect | Multilevel analysis |
| Teacher professional development | 4 | 1 | 3 | 1 | 1 | 1 | 4 | 2 | 3 | 1 | 9 | 5 |
| <i>Beliefs / Attitudes:</i> | | | | | | | | | | | | |
| Job satisfaction | 1 | 1 | 2 | | 1 | | 2 | | 2 | | 4 | 3 |
| Confidence in teaching/Teacher self-efficacy | 3 | 1 | 1 | | | | 2 | 1 | | | 3 | 3 |
| Teacher beliefs | 4 | | 3 | | | 1 | 2 | 4 | | | 7 | 6 |
| Teacher expectations | 1 | | | | 1 | | | 1 | 1 | | 2 | 1 |
| Instructional planning | 1 | | 3 | 1 | 2 | 1 | 2 | 1 | 3 | 1 | 6 | 5 |
| Teachers' contribution out of classroom: Helping with leadership / management | 2 | 1 | 1 | | | 1 | 3 | | | | 4 | 2 |
| <i>Teaching approaches:</i> | | | | | | | | | | | | |
| Inquiry-oriented activities | 1 | | 1 | | | | | | 2 | 1 | 1 | 1 |
| Teacher-centred versus student-centred activities | | | 1 | | | | | | 1 | | 1 | 1 |
| Transmissional teaching | | | 1 | | | | | | 1 | | 1 | |

| Factors addressed | Data drawn from | | | | | Research design | | | | Searching for the | | |
|---|-----------------|----------------------------------|--------|----------------------|-------|-----------------|-----------------------------------|------------------|-------|-------------------|-------------------|---------------------|
| | U.S.A. | Other English speaking countries | Europe | Developing countries | Other | Cross-sectional | Longitudinal (more than one year) | One year studies | Other | Long term effect | Short term effect | Multilevel analysis |
| <i>Classroom Organisation:</i> | | | | | | | | | | | | |
| Whole-class instruction | 1 | | 2 | 1 | | 1 | 1 | 1 | | | 3 | 2 |
| Small group | 2 | | | | | | | 2 | | | 2 | 2 |
| Individual activities | 1 | | | | | | | 1 | | | 1 | 1 |
| Peer tutoring | 1 | | | | | | | 1 | | | 1 | 1 |
| <i>Quality of teaching: Domain-specific</i> | | | | | | | | | | | | |
| Estimation | | | 1 | | | | 1 | | | | 1 | 1 |
| Classification | | | 1 | | | | 1 | | | | 1 | 1 |
| Errors | 1 | | | | | | 1 | | | | 1 | 1 |
| Representations | 1 | | | | | | 1 | | | | 1 | |
| Intellectual challenge | 3 | | 1 | | 1 | | 3 | 1 | 1 | 1 | 4 | 3 |
| Reading-specific instructional practices | 1 | | 1 | | | | 1 | 1 | | | 2 | 2 |
| <i>Quality of teaching: Generic factors</i> | | | | | | | | | | | | |
| Differentiated instruction | 1 | | 3 | | 1 | 2 | 1 | | 2 | 1 | 4 | 4 |
| Cognitive activation | | | 2 | 1 | | 2 | | | | | 2 | 1 |
| Presenting materials in an interesting way | 1 | | 1 | | | | 1 | | 1 | | 2 | 1 |
| Mobile learning | | | | | 1 | | | | 1 | | 1 | |

| Factors addressed | Data drawn from | | | | | Research design | | | | Searching for the | | |
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| | U.S.A. | Other English speaking countries | Europe | Developing countries | Other | Cross-sectional | Longitudinal (more than one year) | One year studies | Other | Long term effect | Short term effect | Multilevel analysis |
| Classroom Climate | 3 | | 3 | 1 | | 1 | 3 | 1 | 2 | | 7 | 3 |
| <i>Context of the classroom:</i> | | | | | | | | | | | | |
| Compositional effect in terms of gender | 1 | | 8 | | 2 | | 1 | 9 | 1 | 2 | 9 | 11 |
| Compositional effect in terms of SES | 2 | 1 | 12 | | 1 | | 5 | 9 | 2 | 3 | 13 | 15 |
| Compositional effect in terms of prior achievement | 5 | 1 | 10 | 2 | | 2 | 7 | 9 | | 4 | 14 | 17 |
| Compositional effect in terms of ethnicity | 3 | 1 | 2 | | 2 | | 4 | 2 | 2 | 2 | 6 | 7 |
| Class size | 3 | | 3 | 1 | | 3 | 3 | 1 | | 2 | 5 | 6 |
| Peer environment | 2 | 1 | 1 | 1 | 1 | | 1 | | 1 | | 2 | 1 |
| School-level | | | | | | | | | | | | |
| <i>Principal characteristics:</i> | | | | | | | | | | | | |
| Qualifications | | | 1 | 3 | | 3 | 1 | | | | 4 | 4 |
| Experience | 1 | | 1 | | | | 2 | | | 1 | 1 | 1 |
| <i>Leadership style:</i> | | | | | | | | | | | | |
| Instructional leadership | 3 | 1 | 1 | 1 | 1 | 1 | 2 | | 1 | | 4 | 2 |

| Factors addressed | Data drawn from | | | | | Research design | | | | Searching for the | | |
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| | U.S.A. | Other English speaking countries | Europe | Developing countries | Other | Cross-sectional | Longitudinal (more than one year) | One year studies | Other | Long term effect | Short term effect | Multilevel analysis |
| Transformational leadership | 2 | | | | 1 | 1 | 1 | | | | 2 | |
| Compound leadership | | | | | 1 | 1 | | | | | 1 | |
| Strategic leadership | | | | | 1 | 1 | | | | | 1 | |
| People-oriented and politically oriented leadership | | | | | 1 | 1 | | | | | 1 | |
| Structure and symbol-oriented leadership | | | | | 1 | 1 | | | | | 1 | |
| <i>Principal's time spent on:</i> | | | | | | | | | | | | |
| Innovative management | | | | | 1 | 1 | | | | | 1 | |
| Instructional activities | 2 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 2 | 2 |
| School climate | 10 | 2 | 7 | 1 | 2 | 8 | 6 | 1 | 5 | 4 | 16 | 13 |
| School autonomy | 3 | 2 | 3 | 1 | 3 | 3 | | 1 | 2 | | 6 | 5 |
| School-based professional development | 2 | | | | | | 2 | | | 1 | 1 | 2 |
| <i>Context of the school:</i> | | | | | | | | | | | | |
| Compositional effect in terms of gender | | | 11 | | 1 | 3 | | 7 | 1 | 2 | 10 | 11 |

| Factors addressed | Data drawn from | | | | | Research design | | | | Searching for the | | |
|--|-----------------|----------------------------------|--------|----------------------|-------|-----------------|-----------------------------------|------------------|-------|-------------------|-------------------|---------------------|
| | U.S.A. | Other English speaking countries | Europe | Developing countries | Other | Cross-sectional | Longitudinal (more than one year) | One year studies | Other | Long term effect | Short term effect | Multilevel analysis |
| Compositional effect in terms of ethnicity | 7 | 2 | 4 | | 2 | 4 | 9 | | 2 | 4 | 11 | 12 |
| Compositional effect in terms of SES | 16 | 6 | 19 | 6 | 5 | 10 | 14 | 7 | 9 | 11 | 30 | 31 |
| Compositional effect in terms of prior achievement | 11 | 6 | 14 | 2 | 2 | 4 | 17 | 11 | 1 | 19 | 17 | 30 |
| School size | 8 | 3 | 3 | 2 | 1 | 4 | 7 | 1 | 2 | 6 | 8 | 10 |
| School type | 5 | 1 | 5 | 1 | 1 | 5 | 5 | 2 | 1 | 5 | 8 | 12 |