

School Professional Cultures and Constructivist-Compatible Uses of Technology

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Teaching, Learning, & Computing--1998

- A representative sample of all U.S. teachers in grades 4-12
- A sample of teachers from schools in major reform projects and schools with high-end technology
- Over 4,100 teachers in 1,100 schools participated, nearly 70% of those sampled
- Teachers completed 20 page questionnaires
- Principals and school technology coordinators completed separate questionnaires

Constructivist Pedagogy Index

Deep Thinking

- Hold a debate and argue for a particular point of view which may not be their own.
- Represent the same idea in more than one way (in math by a table and a graph; in English, by a poem and an essay).
- Work on problems for which there is no obvious method of solution.
- Seriously assess their own work.
- Make conjectures about what they will learn or discover in a new unit.

Project-Based

- Make a product that will be used by someone else.
- Do hands on/laboratory activities.
- Work on projects that take a week or more.
- Demonstrate their work to an audience including people other than from the school or their family.

Student-Designed

- Relate what they are working on to their own experience.
- Suggest or help plan classroom activities.
- Decide on their own procedures for solving a complex problem and then discuss among themselves their different procedures and results.

Teacher's Work Orientation: Professional Leadership vs. Classroom Focus

1. Teacher Professional Contacts at School:

Discussions of Teaching, Learning, Subject-matter, Technology
Classroom Visits to Observe Teaching

2. Teacher Interactions Beyond the School:

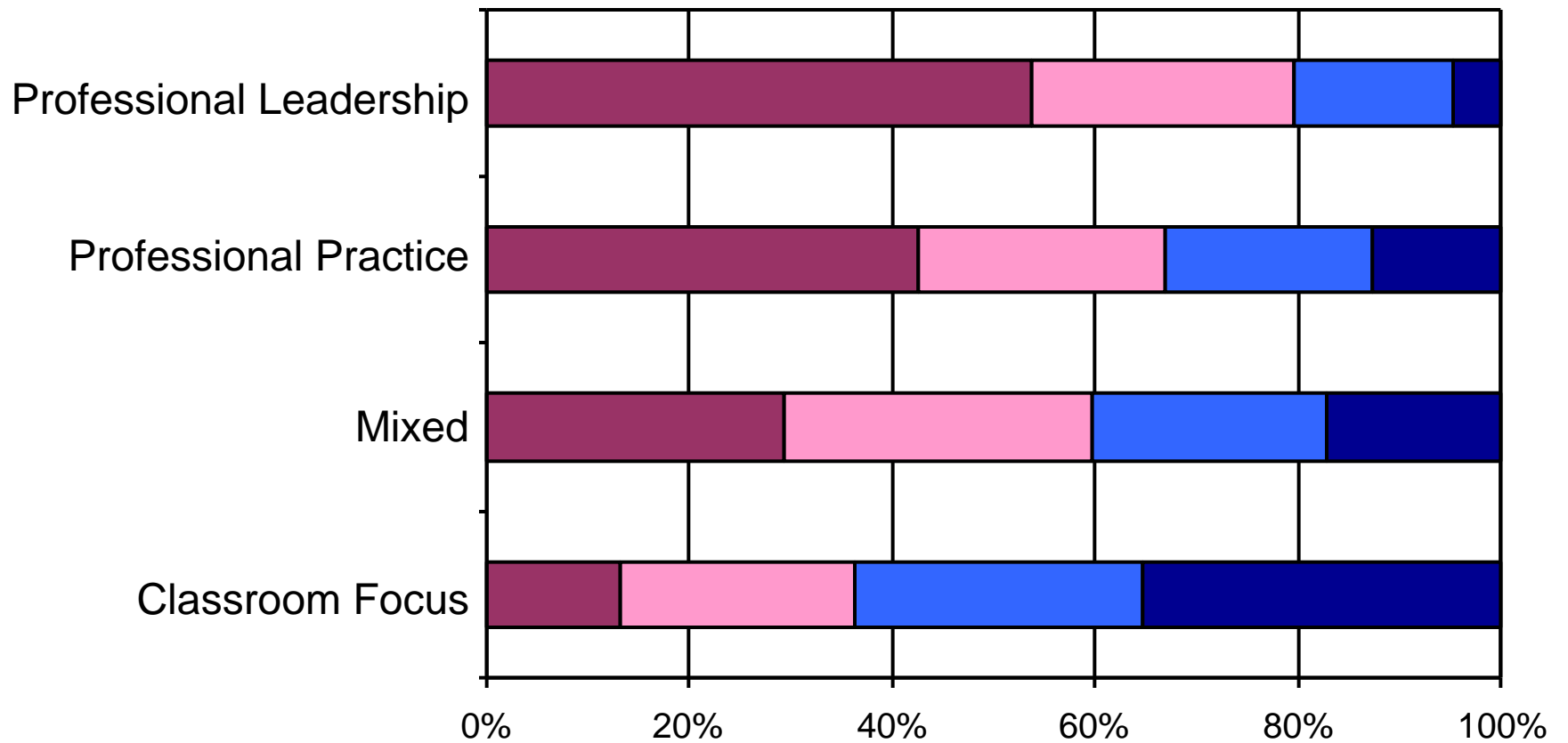
Attends Workshops
Participates on Committees
Professional exchanges through E-mail

3. Leadership Activities over Past 3 Years:

Mentoring
Teaching Peers in Workshops/Conferences
College Teaching
Publishing Articles for Practitioners

Teacher Practice by Work Orientation

Constructivist ← ————— → **Traditional**



Professional School Culture

Teacher Learning Community

It is common for us to share samples of student work

Other teachers encourage me to try out new ideas

Evaluation: Teacher Recognition and Peer Constructive Criticism

Teachers who successfully innovate are given public recognition

Most teachers will press another if that person is not teaching well

Integrated, Teacher-Respecting Staff Development

Staff development is followed by support to help teachers implement ideas

New ideas presented are discussed by teachers afterwards

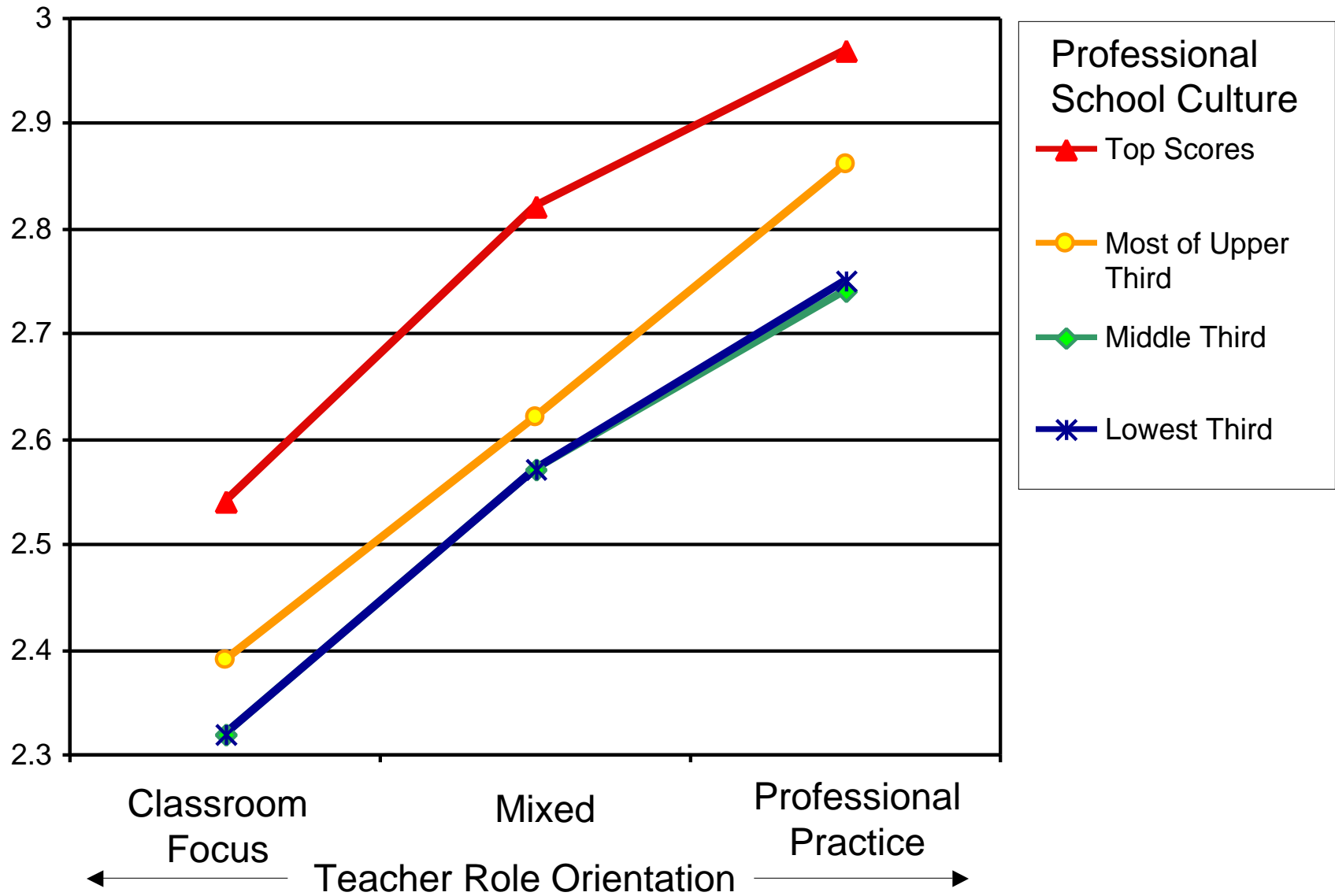
Goal Consensus

The principal's philosophy of education is similar to my own

Most teachers share my beliefs about the central goals of the school

Pedagogy by Role Orientation by School Working Culture

Constructivist Pedagogy Score



Computer Use by Work Orientation (by subject groups)

Elementary Self Contained

Professional Practice

Mixed

Classroom Focus

MS & HS School Academic

Professional Leadership

Professional Practice

Mixed

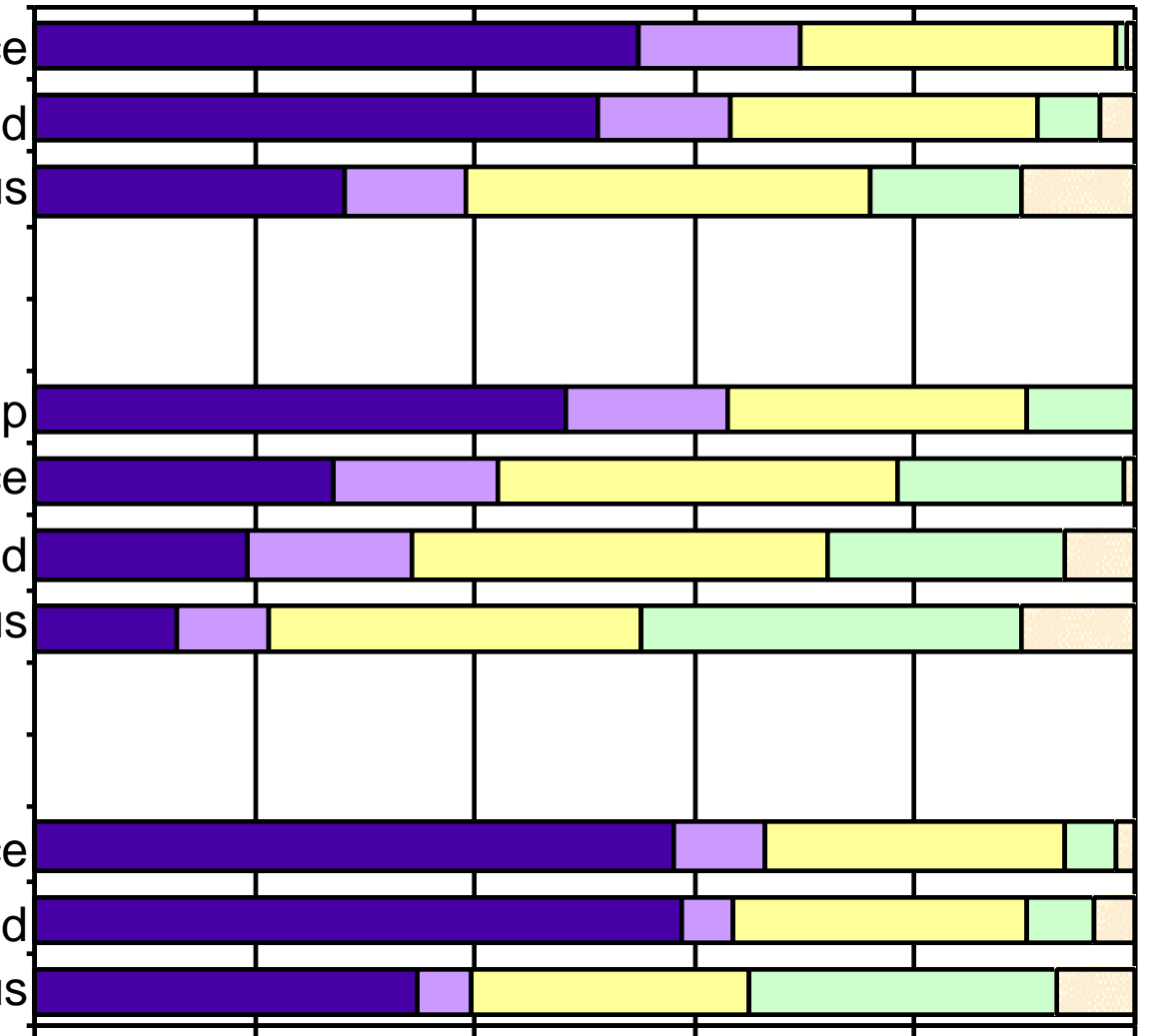
Classroom Focus

Computers, Business, Vocational, Other

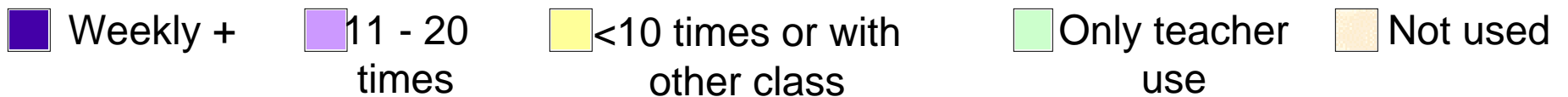
Professional Practice

Mixed

Classroom Focus

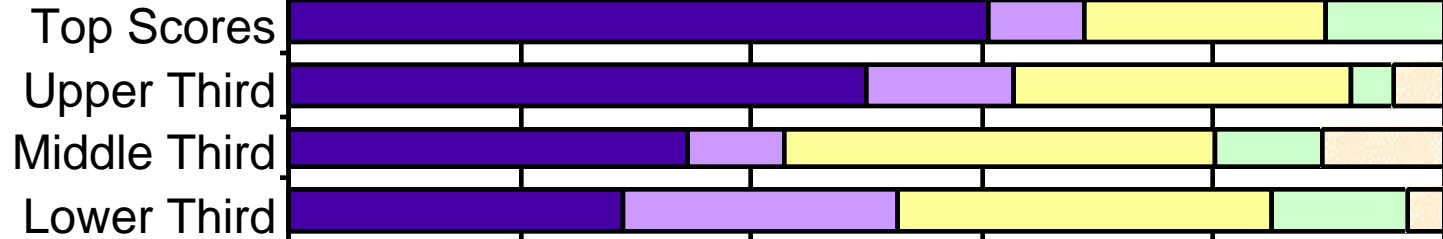


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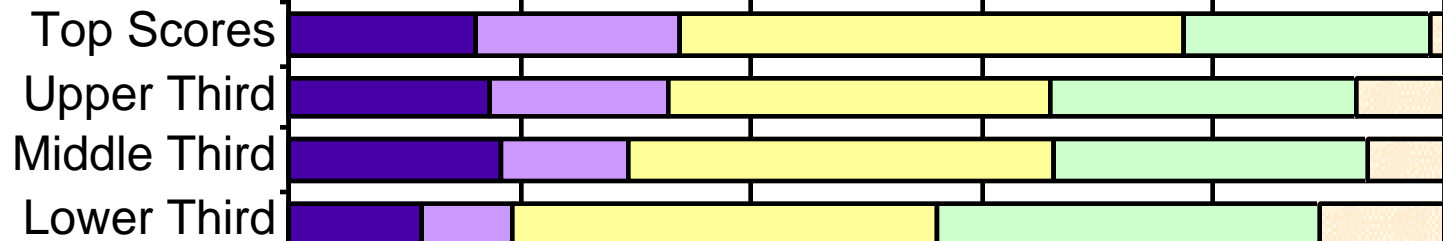


Computer Use by Professional School Culture

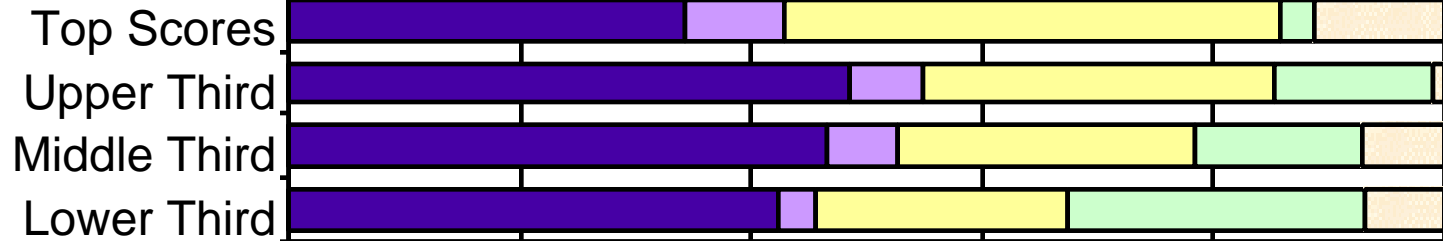
Elementary Self-Contained



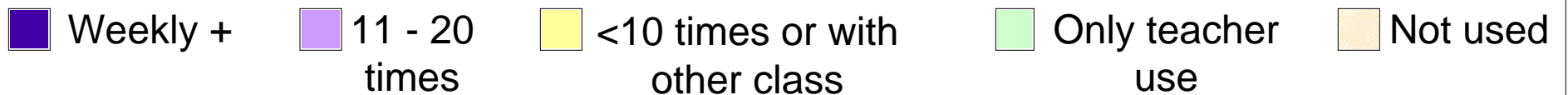
MS & HS School Academic



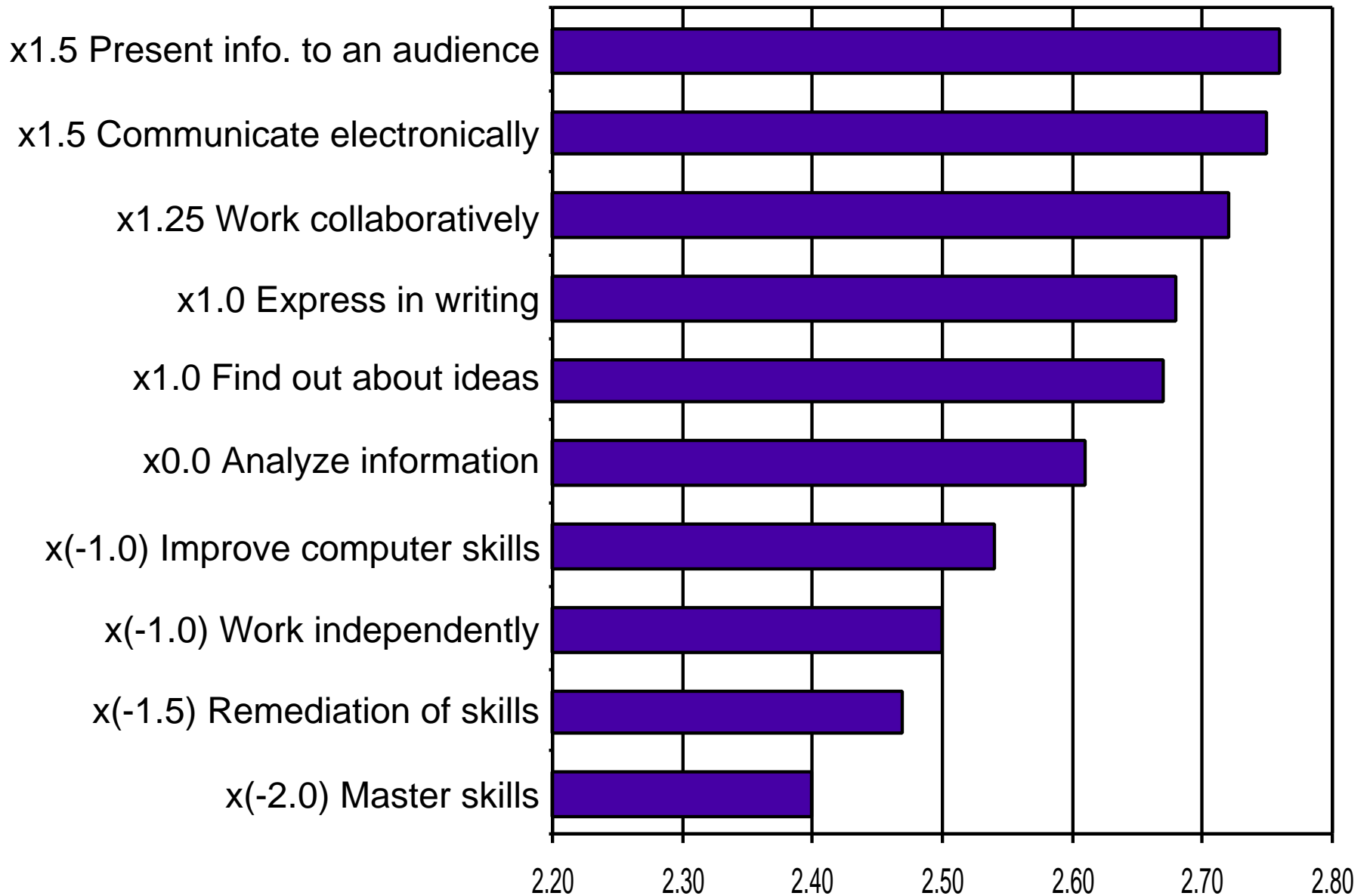
Computers, Business, Vocational, Other



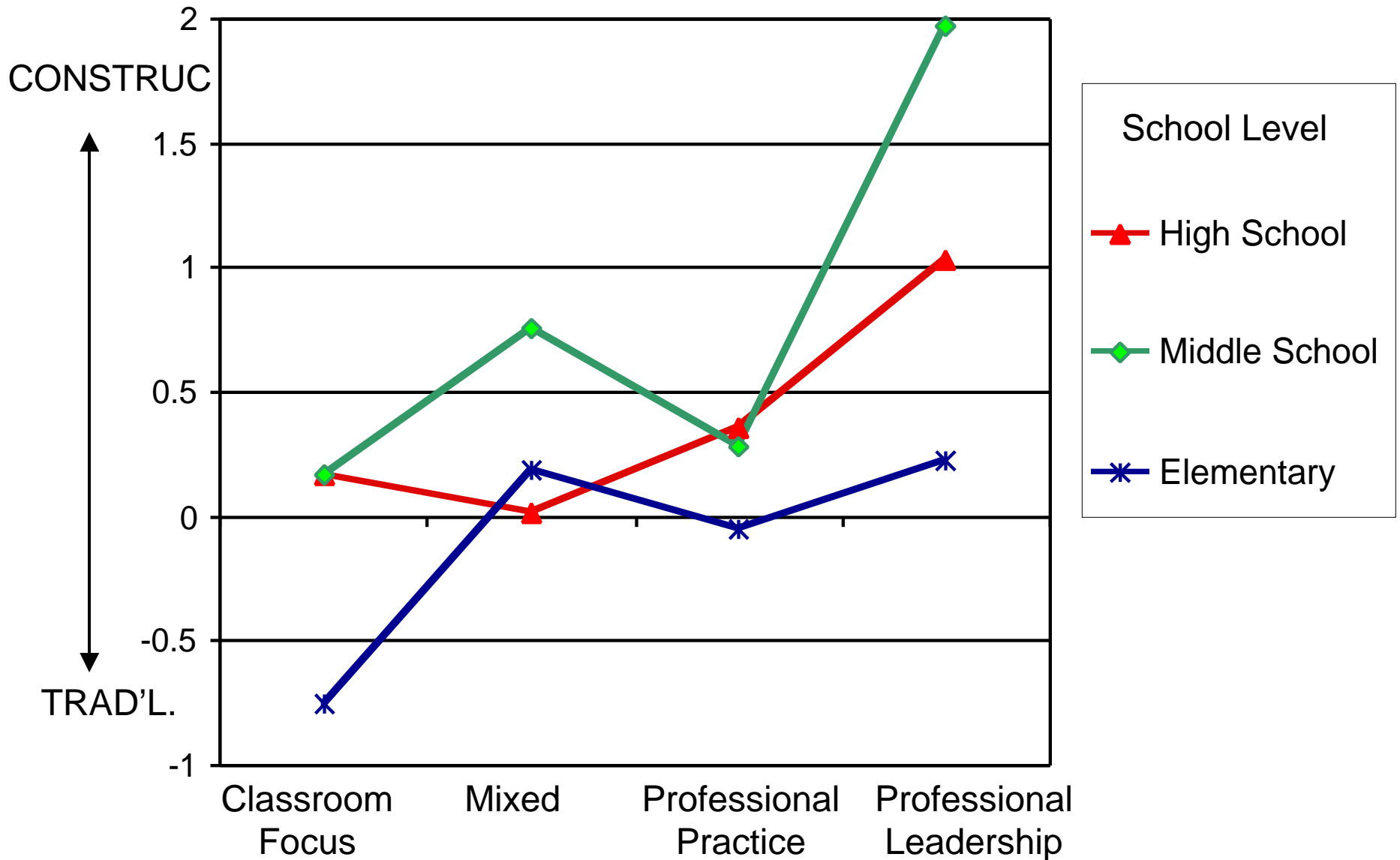
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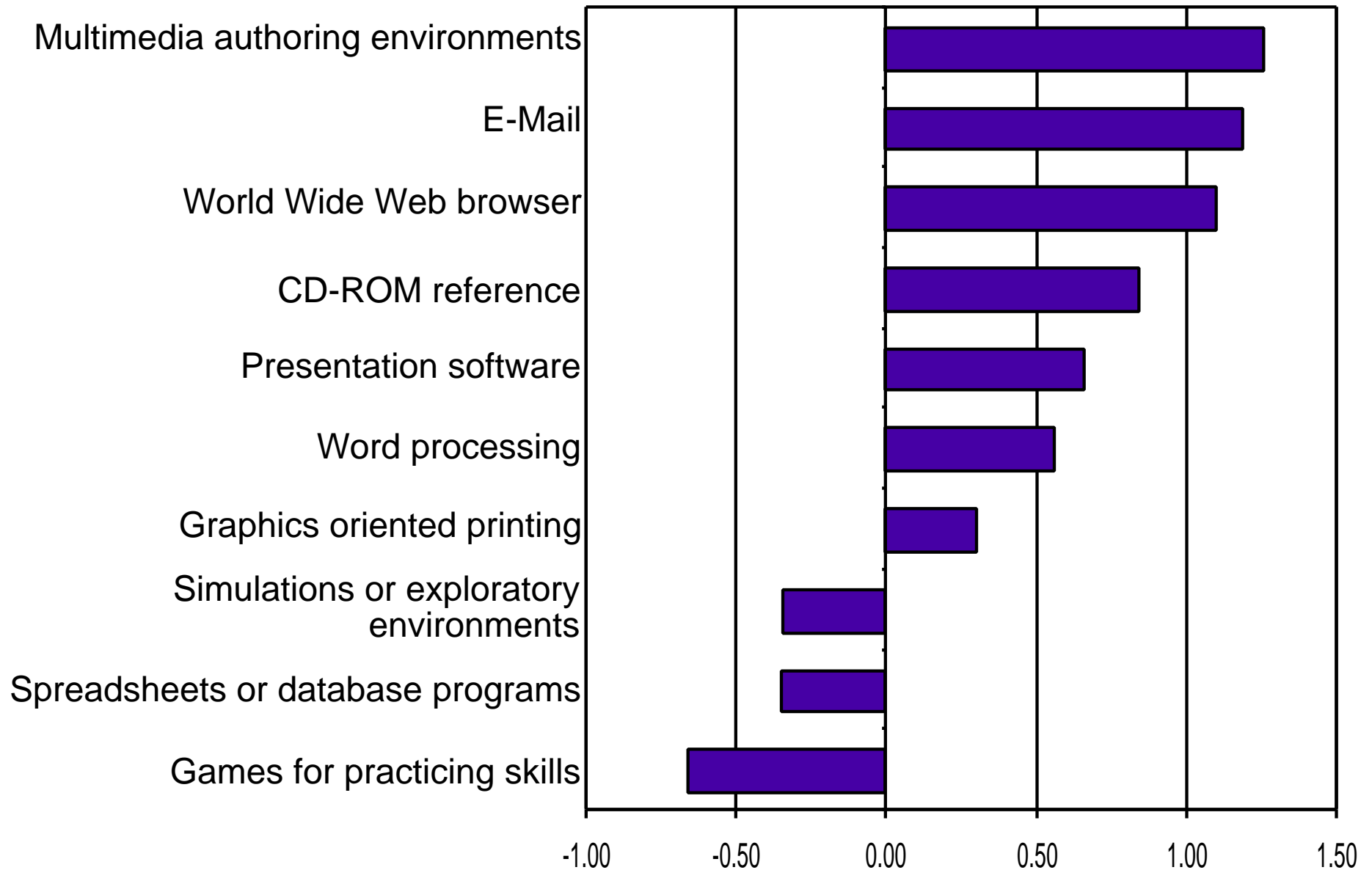
Objectives for Computer Use Ranked by Constructivism Among Those Choosing That Objective



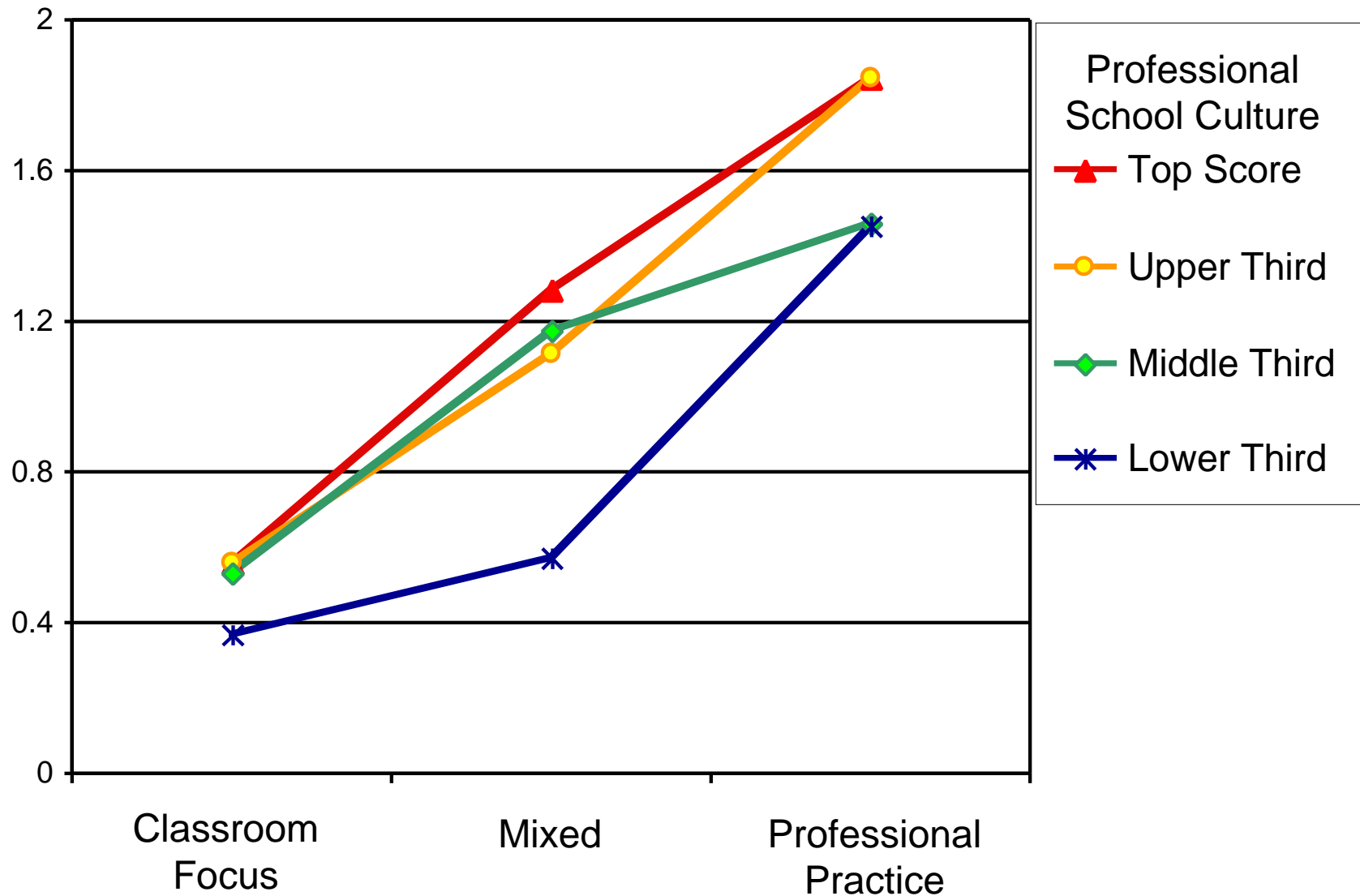
Constructivist vs. Traditional Objectives for Computer Use by Work Orientation, by School Level Taught



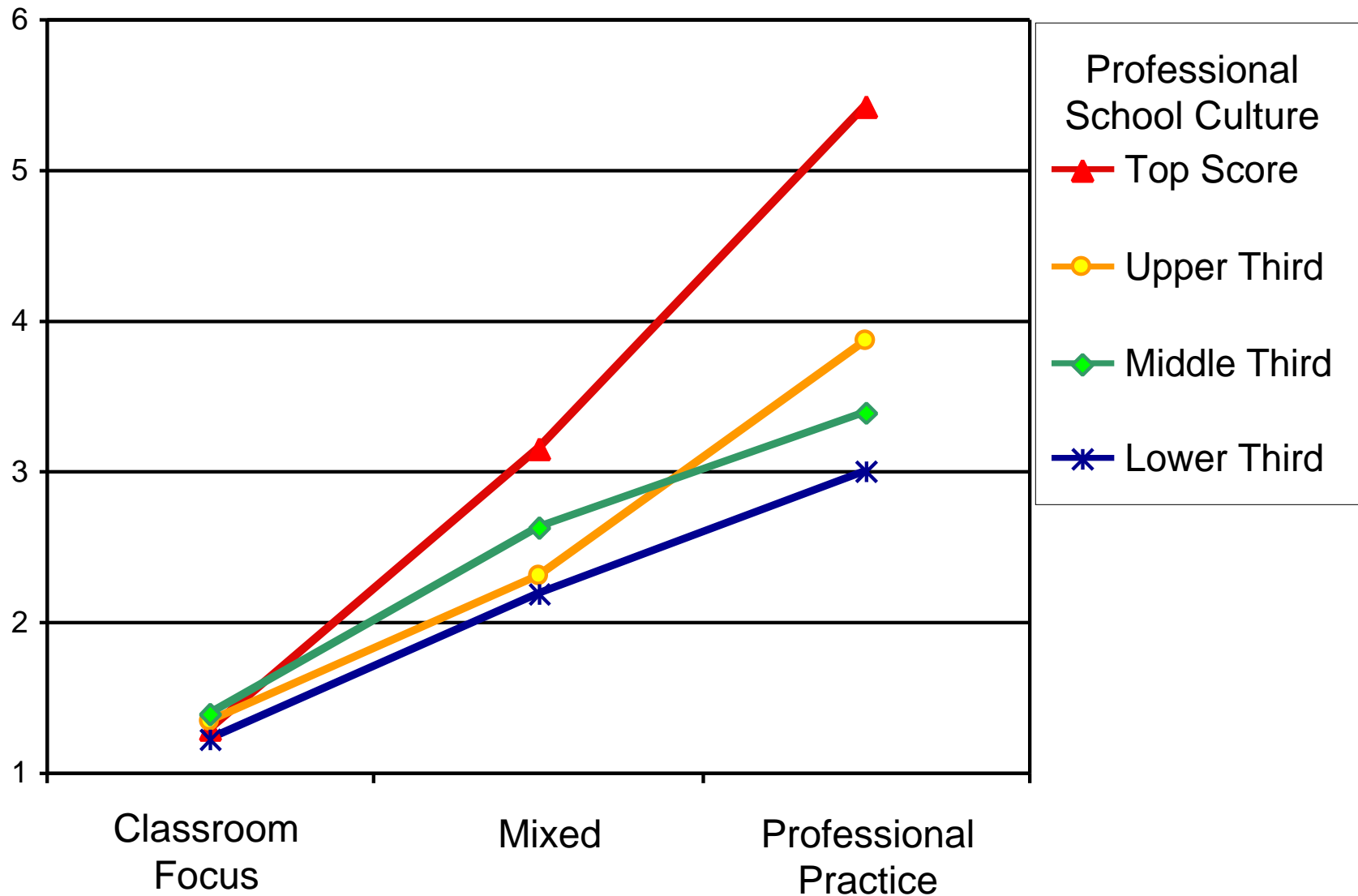
Software Ranked by Constructivism of Computer Objectives of Major Users



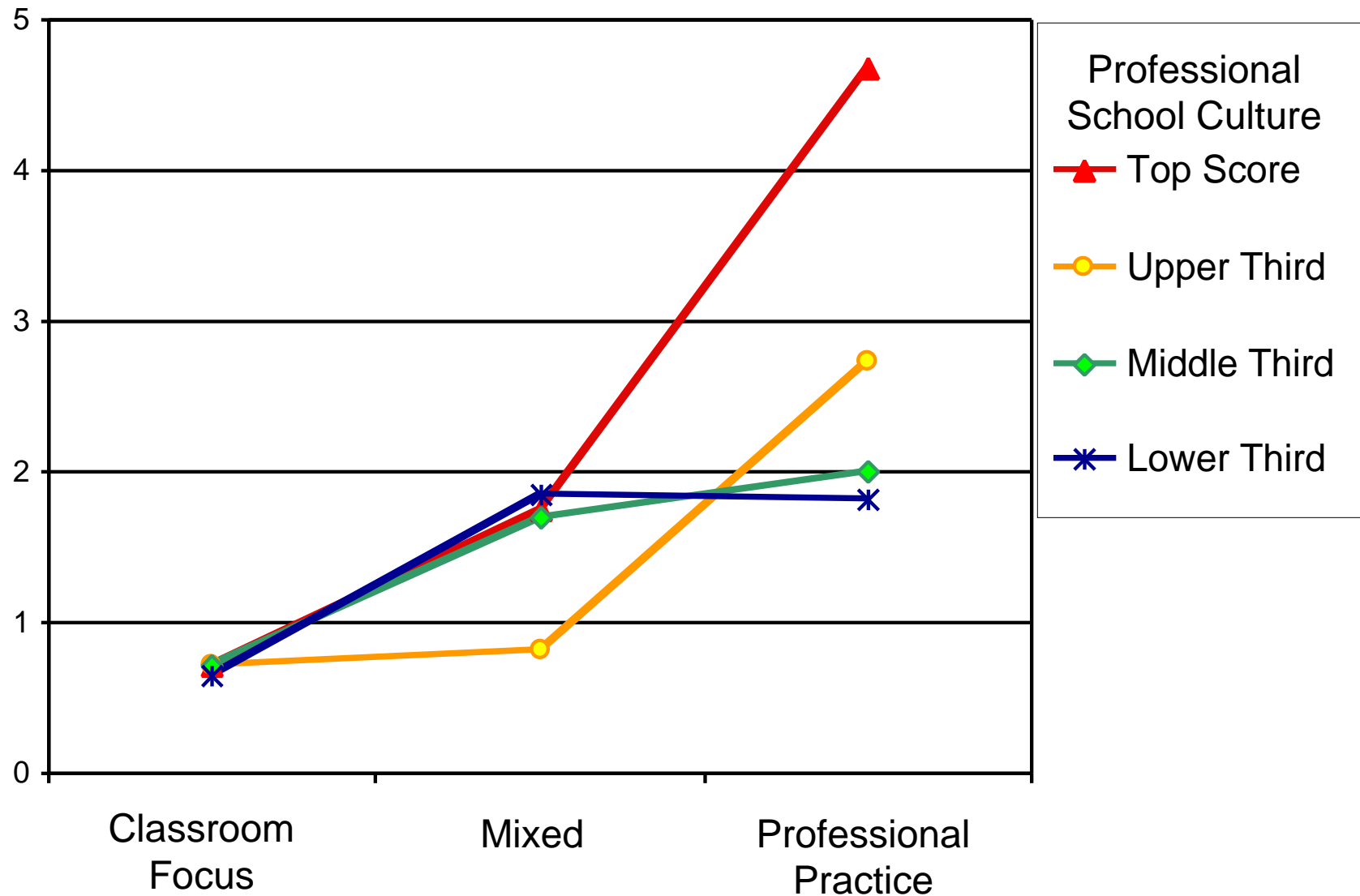
Use of Multimedia Authoring Software, by Work Orientation, by School Culture (Selected Subjects)



Use of World Wide Web Browser, by Work Orientation, by School Culture (Selected Subjects)



Use of Presentation Software, by Work Orientation, by School Culture (Selected Subjects)



Professional Practice vs. Private Practice

The position of the teachers in the education community mirrors the position of students in the classroom community.

If teachers take leadership role in the education community, they are more likely to encourage student leadership in the classroom.

Teacher collaboration at school is linked to student collaboration in the classroom

If teachers implement ideas that are delivered to them, they are more likely to create a learning context in which ideas and skills are delivered to their students.

Private Practice is related to individualized learning practices

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- Discussion group
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