Informatisierung & Digitalisierung als Herausforderung in Lehrvermittlung und Forschung

Prof. Dr. Joachim K. Rennstich

CVJM-Hochschule

joachim@rennstich.com | www.rennstich.com

Transformation

→ Sozialraum

→ Hybridisierung

→ Beziehung
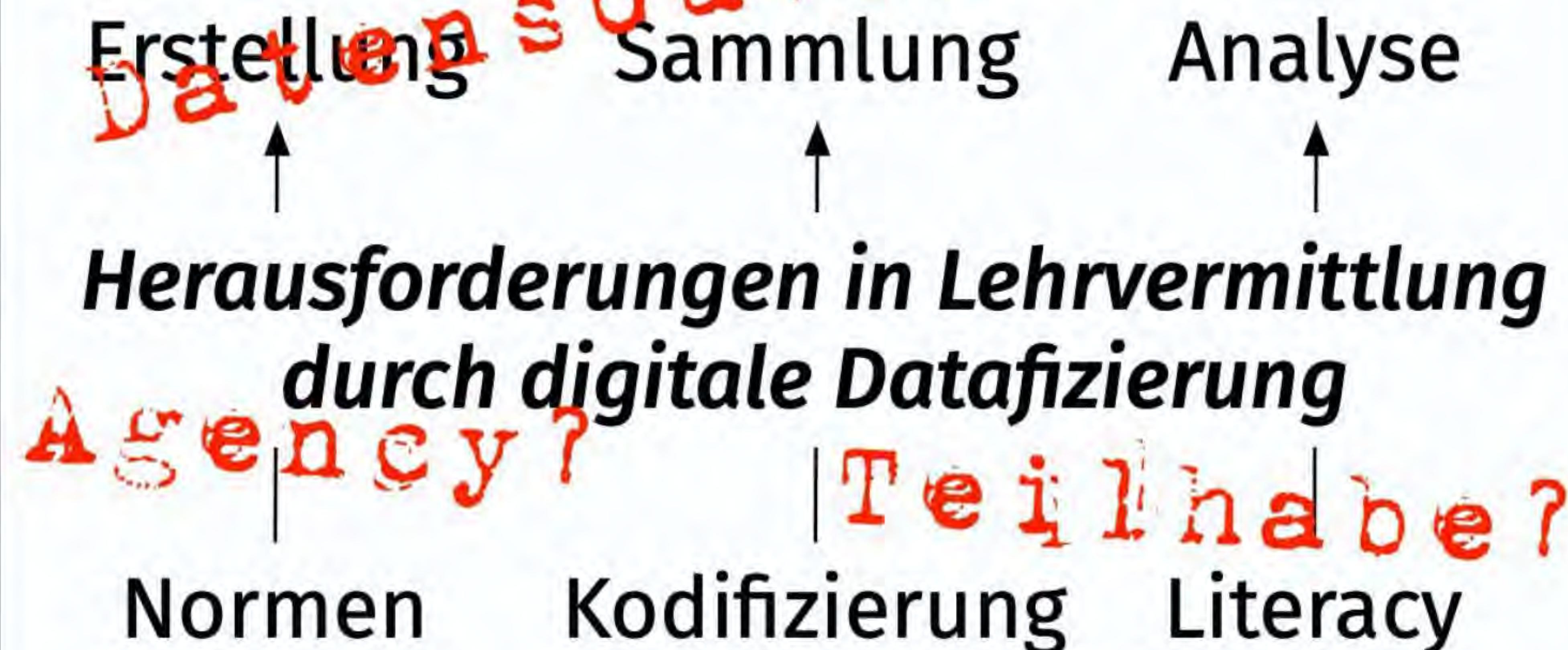
Literacies

→ Digital

→ Information

→ Medien

→ Daten

Figure 4.1: Example CT Task 1 with framework references and overall percent correct (contd.)

Score	CT scale region	CT scale difficulty	ICILS 2018 average percentage correct responses
At least one of three points	Lower	353	86 (0.3)
At least two of three points	Lower	396	77 (0.4)
Three points	Upper	613	27 (0.5)

ICILS assessment framework reference	
2.2	Operationalizing solutions
	Developing algorithms, programs, and interfaces

Country	Percentage scoring one out of three points	Percentage scoring two out of three points	Percentage scoring three points
Denmark[†][1]	92 (0.5)	83 (0.9)	26 (1.2)
Finland	87 (1.0)	80 (1.2)	29 (1.0)
France	87 (0.8)	77 (1.0)	40 (1.3)
Germany	83 (1.2)	73 (1.2)	18 (1.2)
Korea, Republic of	90 (0.8)	86 (1.0)	39 (1.9)
Luxembourg	76 (0.5)	66 (0.5)	16 (0.3)
Portugal[††][1]	88 (0.8)	78 (1.1)	20 (1.1)
Not meeting sample participation requirements			
United States	86 (0.6)	77 (0.7)	34 (1.1)
Benchmarking participant meeting sample participation requirements			
North Rhine-Westphalia (Germany)	84 (0.9)	73 (1.3)	17 (1.1)

Notes: Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.
[†] Met guidelines for sampling participation rates only after replacement schools were included.
[††] Nearly met guidelines for sampling participation rates after replacement schools were included.
[1] National defined population covers 90% to 95% of the national target population.

Computational thinking achievement, International Computer and Information Literacy Study (ICILS 2018)

ICILS assessment framework reference	
1.3	Conceptualizing problems
	Collecting and representing relevant data

Figure 4.3: Example CT Task 3 with framework references and overall percent correct (contd.)

Country	Percentage scoring one out of two points	Percentage scoring two points
Denmark[†][1]	64 (1.3)	40 (1.3)
Finland	62 (1.3)	37 (1.3)
France	48 (1.1)	27 (1.1)
Germany	56 (1.2)	32 (1.1)
Korea, Republic of	72 (1.2)	58 (1.2)
Luxembourg	50 (0.6)	28 (0.5)
Portugal[††][1]	56 (1.4)	28 (1.4)
Not meeting sample participation requirements		
United States	57 (1.0)	34 (0.9)
Benchmarking participant meeting sample participation requirements		
North Rhine-Westphalia (Germany)	55 (1.2)	29 (1.3)

Notes: Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

[†] Met guidelines for sampling participation rates only after replacement schools were included.
[††] Nearly met guidelines for sampling participation rates after replacement schools were included.
[1] National defined population covers 90% to 95% of the national target population.

Computational thinking achievement (ICILS 2018)

Table 4.2: Gender differences in CT

Country	Mean scale score females	Mean scale score males	Difference (females – males)	Gender difference
Denmark[†][1]	527 (2.7)	527 (3.1)	0 (3.5)	
Finland	515 (3.7)	502 (4.3)	**13** (4.4)	
France	498 (3.1)	505 (3.0)	−7 (3.8)	
Germany	482 (3.7)	490 (4.7)	−8 (4.4)	
Korea, Republic of	534 (4.6)	538 (5.5)	−4 (4.9)	
Luxembourg	457 (2.0)	463 (1.7)	−6 (3.3)	
Portugal[††][1]	473 (2.7)	490 (3.3)	**−16** (3.3)	
ICILS 2018 average	498 (1.2)	502 (1.4)	**−4** (1.5)	
Not meeting sample participation requirements				
United States	495 (2.6)	502 (3.3)	−7 (3.1)	
Benchmarking participant meeting sample participation requirements				
North Rhine-Westphalia (Germany)	474 (3.4)	496 (4.1)	**−23** (4.8)	

Gender difference scale: -30, 20, -10, 0, 10, 20, 30. Males score higher / Females score higher.

Notes: Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent. Statistically significant differences ($p < 0.05$) between subgroups are shown in **bold**.
[†] Met guidelines for sampling participation rates only after replacement schools were included.
[††] Nearly met guidelines for sampling participation rates after replacement schools were included.
[1] National defined population covers 90% to 95% of national target population.

■ Gender difference statistically significant at $p < 0.05$ level
□ Gender difference not statistically significant

Computational thinking achievement, gender differences (ICILS 2018)

Table 4.1: Country averages for CT, average age, CT score, ICT development index score, and percentile graph

Country	Average age	CT achievement distribution							Average CT score			ICT development index (IDI) score (and country rank)
		100	200	300	400	500	600	700				
Korea, Republic of	14.2								536	(4.4)	▲	8.85 (2)
Denmark[†][1]	14.9								527	(2.3)	▲	8.71 (4)
Finland	14.8								508	(3.4)	▲	7.88 (22)
France	13.8								501	(2.4)		8.24 (15)
Germany	14.5								486	(3.6)	▼	8.39 (12)
Portugal[††][1]	14.1								482	(2.5)	▼	7.13 (44)
Luxembourg	14.5								460	(0.9)	▼	8.47 (9)
ICILS 2018 average	14.4								500	(1.1)		
Not meeting sample participation requirements												
United States	14.2								498	(2.5)		8.18 (16)
Benchmarking participant meeting sample participation requirements												
North Rhine-Westphalia (Germany)	14.4								485	(3.0)	▼	8.39 (12)[2]

▲ Achievement significantly higher than ICILS 2018 average
▼ Achievement significantly lower than ICILS 2018 average

Percentiles of performance
5th   25th   75th   95th

Mean and confidence interval (±2SE)

Notes: ICT development index (IDI) score and country rank data relate to 2017 (source: ITU 2019). Standard errors appear in parentheses.
[†] Met guidelines for sampling participation rates only after replacement schools were included.
[††] Nearly met guidelines for sampling participation rates after replacement schools were included.
[1] National defined population covers 90% to 95% of national target population.
[2] Data relate to all of Germany.

Computational thinking achievement (ICILS 2018)

Table 5.2: Percentages of students reporting daily use of ICT in and outside school for school-related and other purposes

Country	Percentages of students who reported daily use of ICT:			
	At school for school-related purposes	At school for other purposes	Outside of school for school-related purposes	Outside of school for other purposes
Chile	12 (0.9) ▽	27 (1.2)	14 (0.9) ▽	62 (1.5) ▽
Denmark[†1]	81 (1.2) ▲	55 (1.4) ▲	35 (1.5) ▲	79 (1.0) △
Finland	12 (1.0) ▽	56 (1.4) ▲	15 (0.9) ▽	79 (0.9) △
France	8 (0.7) ▽	13 (1.1) ▼	25 (0.9) △	76 (0.9) △
Germany	4 (0.6) ▼	16 (1.2) ▼	11 (0.8) ▼	83 (0.9) ▲
Italy[2]	7 (0.6) ▼	4 (0.5) ▼	22 (0.9)	77 (1.0) △
Kazakhstan[1]	24 (1.1) △	30 (1.1)	31 (1.2) △	48 (1.4) ▼
Korea, Republic of	5 (0.5) ▼	19 (1.0) ▽	10 (0.7) ▼	68 (1.0) ▽
Luxembourg	18 (0.6)	33 (0.6) △	27 (0.5) △	66 (0.6) ▽
Portugal[††1]	7 (0.5) ▼	36 (1.1) △	10 (0.7) ▼	71 (1.3)
Uruguay	15 (0.9) ▽	25 (1.4) ▽	33 (1.4) ▲	66 (1.6) ▽
ICILS 2018 average	18 (0.2)	29 (0.3)	21 (0.3)	70 (0.3)
Not meeting sample participation requirements				
United States	43 (1.6)	28 (1.0)	29 (0.9)	66 (0.9)
Benchmarking participants meeting sample participation requirements				
Moscow (Russian Federation)	22 (0.8) △	43 (1.1) ▲	40 (1.0) ▲	77 (1.3) △
North Rhine-Westphalia (Germany)	3 (0.5) ▼	19 (1.5) ▽	9 (0.8) ▼	85 (0.9) ▲

Notes: Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent. Comparisons with ICILS 2018 only reported for countries or benchmarking participants meeting sample participation requirements.

[†] Met guidelines for sampling participation rates only after replacement schools were included.

[††] Nearly met guidelines for sampling participation rates after replacement schools were included.

[1] National defined population covers 90% to 95% of the national target population.

[2] Country surveyed target grade in the first half of the school year.

National ICILS 2018 results are:

▲ More than 10 percentage points above average

△ Significantly above average

▽ Significantly below average

▼ More than 10 percentage points below average

Students' ICT engagement (ICILS 2018)

Table 5.13: Percentages of students using ICT on a weekly basis for specified school-related purposes

| Country | Percentages of students who reported at least weekly use of ICT to: | | | | | | | | | |
	Prepare reports or essays	Prepare presentations	Work online with other students	Complete [worksheets] or exercises	Organize your time and work	Take tests	Use software or applications to learn skills or a subject	Use the internet to do research	Use coding software to to complete assignments (e.g., [Scratch])	Make video or audio productions
Chile	29 (1.1) △	30 (1.3) △	18 (1.2) ▽	24 (0.9) ▽	30 (1.1)	23 (1.1) △	24 (1.4)	67 (1.5) △	20 (1.0) △	23 (1.0) △
Denmark[†][‡]	61 (1.3) ▲	45 (1.5) ▲	86 (1.0) ▲	60 (1.1) ▲	48 (1.4) ▲	25 (1.3) △	44 (1.2) ▲	91 (0.7) ▲	15 (0.9)	8 (0.7) ▽
Finland	7 (0.7) ▼	7 (0.8) ▼	9 (0.6) ▼	6 (0.5) ▼	10 (0.7) ▼	7 (0.6) ▼	12 (0.7) ▼	17 (0.8) ▼	3 (0.4) ▼	3 (0.3) ▼
France	25 (0.9)	16 (0.9) ▽	21 (0.9) ▽	32 (1.1) △	32 (0.9) △	16 (1.0) ▽	17 (0.9) ▽	73 (1.0) ▲	13 (0.8)	13 (0.6) ▽
Germany	15 (0.8) ▼	13 (0.8) ▽	12 (0.8) ▼	22 (0.9) ▽	14 (0.8) ▼	9 (0.8) ▼	13 (0.8) ▼	49 (1.5) ▼	7 (0.7) ▽	9 (0.9) ▽
Italy[²]	20 (0.9) ▽	14 (0.8) ▽	15 (0.7) ▼	18 (0.9) ▼	24 (1.0) ▽	14 (0.6) ▽	22 (0.8) ▽	62 (1.2) △	13 (0.7)	22 (1.0) △
Kazakhstan[†]	48 (1.4) ▲	39 (1.5) ▲	42 (1.4) ▲	56 (1.4) ▲	47 (1.5) ▲	44 (1.4) ▲	51 (1.4) ▲	54 (1.6) ▽	27 (1.4) ▲	40 (1.3) ▲
Korea, Republic of	14 (1.1) ▼	15 (1.2) ▽	10 (0.9) ▼	19 (0.9) ▼	16 (0.9) ▼	13 (0.7) ▽	15 (0.8) ▽	36 (1.4) ▼	9 (1.1) ▽	9 (0.6) ▽
Luxembourg	26 (0.7)	22 (0.6)	23 (0.6) ▽	27 (0.6) ▽	26 (0.7) ▽	27 (0.6) △	21 (0.7) ▽	61 (0.6) △	14 (0.5)	15 (0.6) ▽
Portugal[††][‡]	23 (1.1) ▽	20 (1.2) ▽	20 (1.0) ▽	33 (1.2) △	37 (1.5) △	29 (1.5) △	27 (1.1) △	73 (1.0) ▲	16 (0.9) △	24 (1.1) △
Uruguay	21 (1.0) ▽	26 (1.2) △	22 (1.0) ▽	31 (1.4)	28 (0.8)	19 (1.1)	23 (1.1)	71 (1.2) ▲	19 (1.1) △	30 (1.3) ▲
ICILS 2018 average	26 (0.3)	22 (0.3)	25 (0.3)	30 (0.3)	28 (0.3)	20 (0.3)	24 (0.3)	59 (0.4)	14 (0.3)	18 (0.3)
Not meeting sample participation requirements										
United States	41 (1.3)	30 (1.0)	30 (0.9)	56 (1.1)	40 (0.9)	43 (1.0)	33 (0.9)	72 (0.9)	15 (0.8)	13 (0.4)
Benchmarking participants meeting sample participation requirements										
Moscow (Russian Federation)	24 (1.0)	19 (1.1) ▽	19 (0.8) ▽	41 (1.4) ▲	33 (1.2) △	29 (1.1) △	35 (1.2) ▲	31 (1.2) ▼	12 (0.8) ▽	21 (0.8) △
North Rhine-Westphalia (Germany)	14 (1.0) ▼	12 (1.0) ▼	13 (0.9) ▼	18 (1.0) ▼	12 (0.9) ▼	7 (0.6) ▼	12 (1.1) ▼	44 (1.5) ▼	7 (1.0) ▽	8 (0.8) ▽

Notes: Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent. Comparisons with ICILS 2018 only reported for countries or benchmarking participants meeting sample participation requirements.

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[²] Country surveyed target grade in the first half of the school year.

National ICILS 2018 results are:
▲ More than 10 percentage points above average
△ Significantly above average
▽ Significantly below average
▼ More than 10 percentage points below average

International Computer and Information Literacy Study (ICILS) 2018

Digitalisierung als Querschnittsthema > Ethik

→ Rechtlich

→ Privacy

→ Analyse

Digitalisierung als Querschnittsthema > Analyse

→ Mixed Methods

→ Big Data

→ Sozialinformatik

Abb. 2: Digitalisierungsbezogene Inhalte nach Modulen.
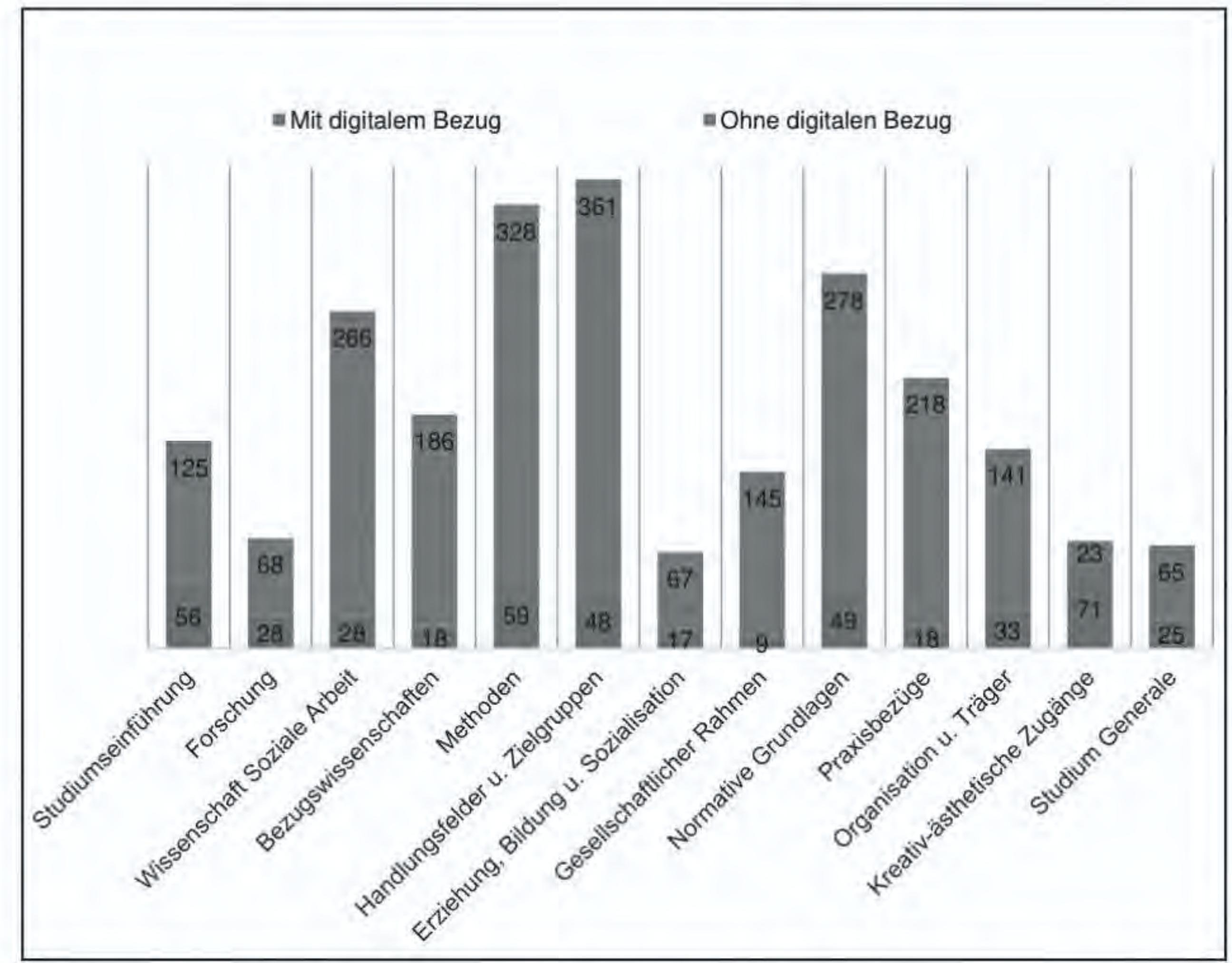
Weber, J. (2020). Das Studium Sozialer Arbeit im Spiegel der Digitalisierung. *Neue Praxis*, 50(2), 156–179.

Abb. 3: Modulare Verortung der Digitalisierung auf Ebene der Adressatinnen und Adressaten.
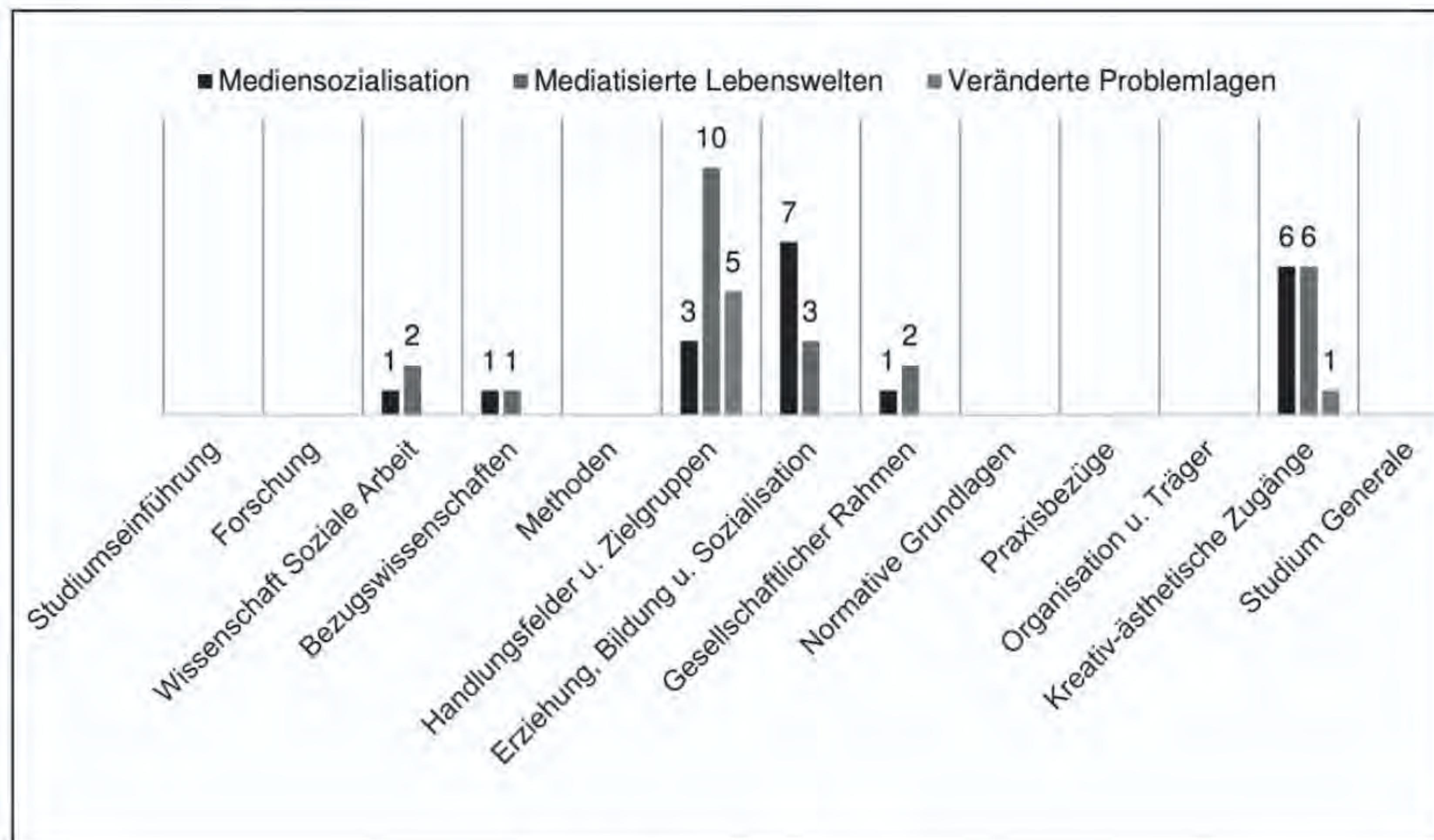
Weber (2020)

Abb. 7: Modulare Verortung der Digitalisierung auf Ebene der Gesellschaft.
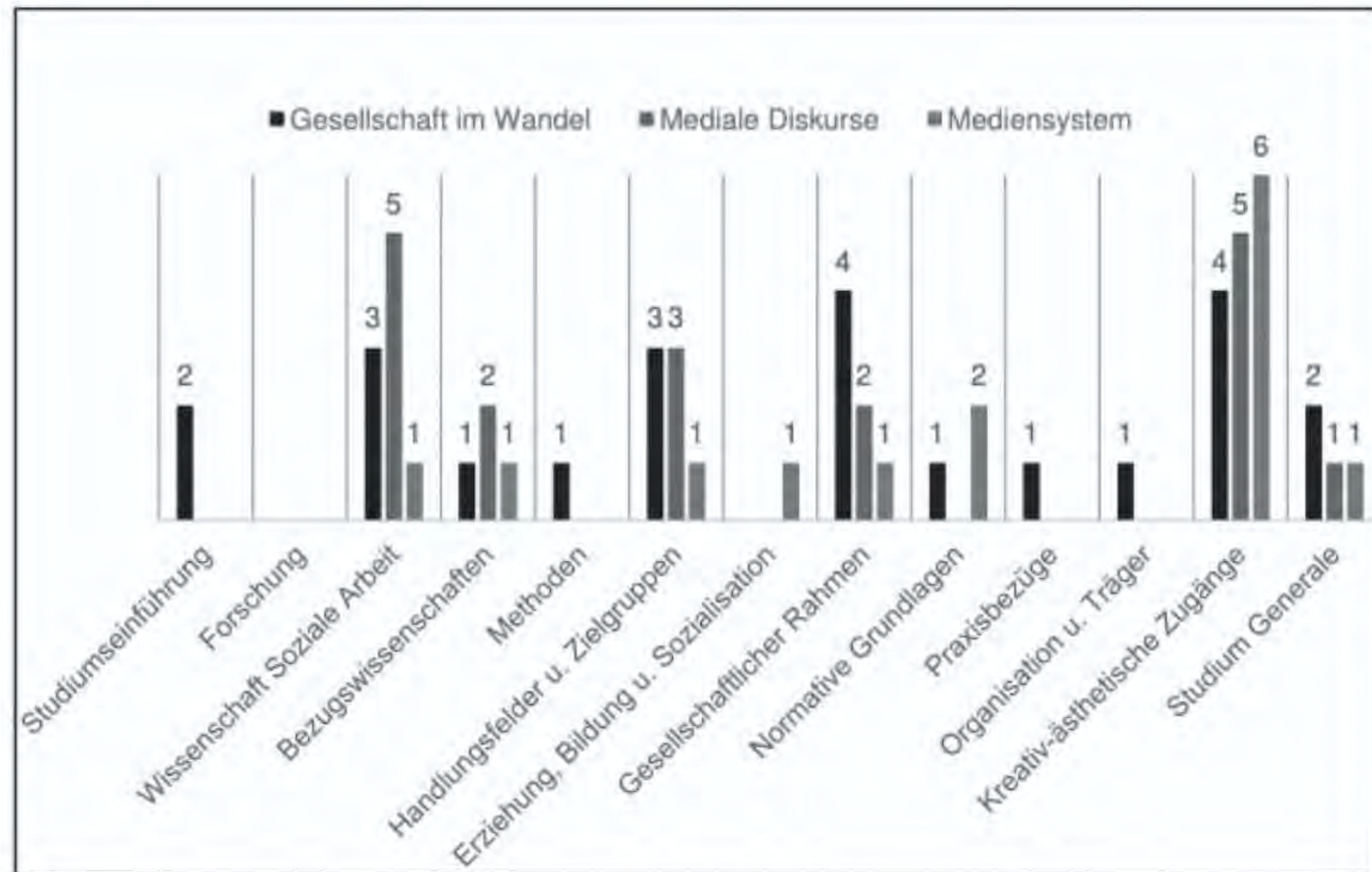
Weber (2020)

Abb. 8: Modulare Verortung der Digitalisierung auf Ebene der Gesellschaft.
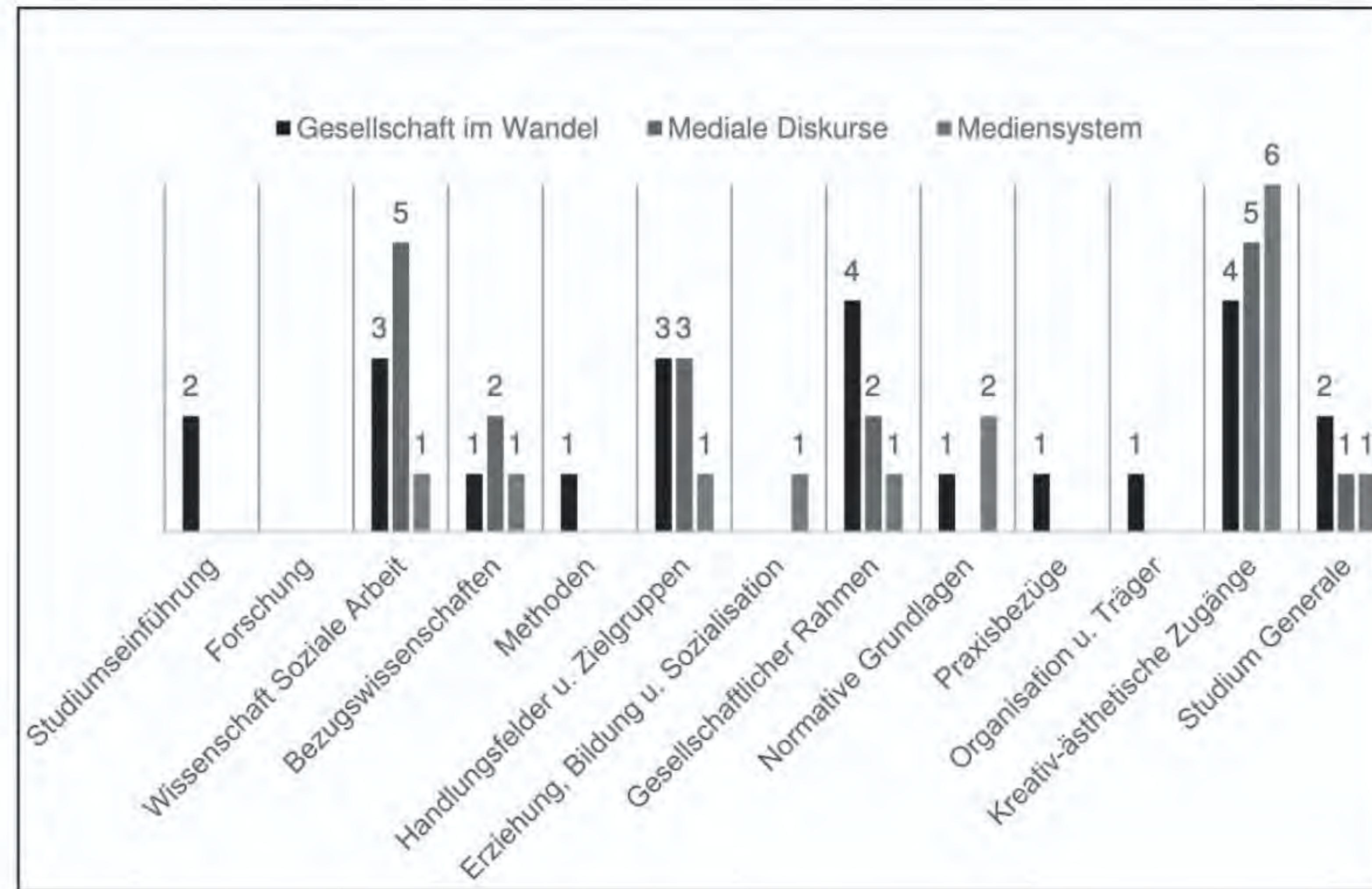
Weber (2020)

Abb. 9: Modulare Verortung von Datenschutz, Datensicherheit und (Jugend-)Medienschutz.
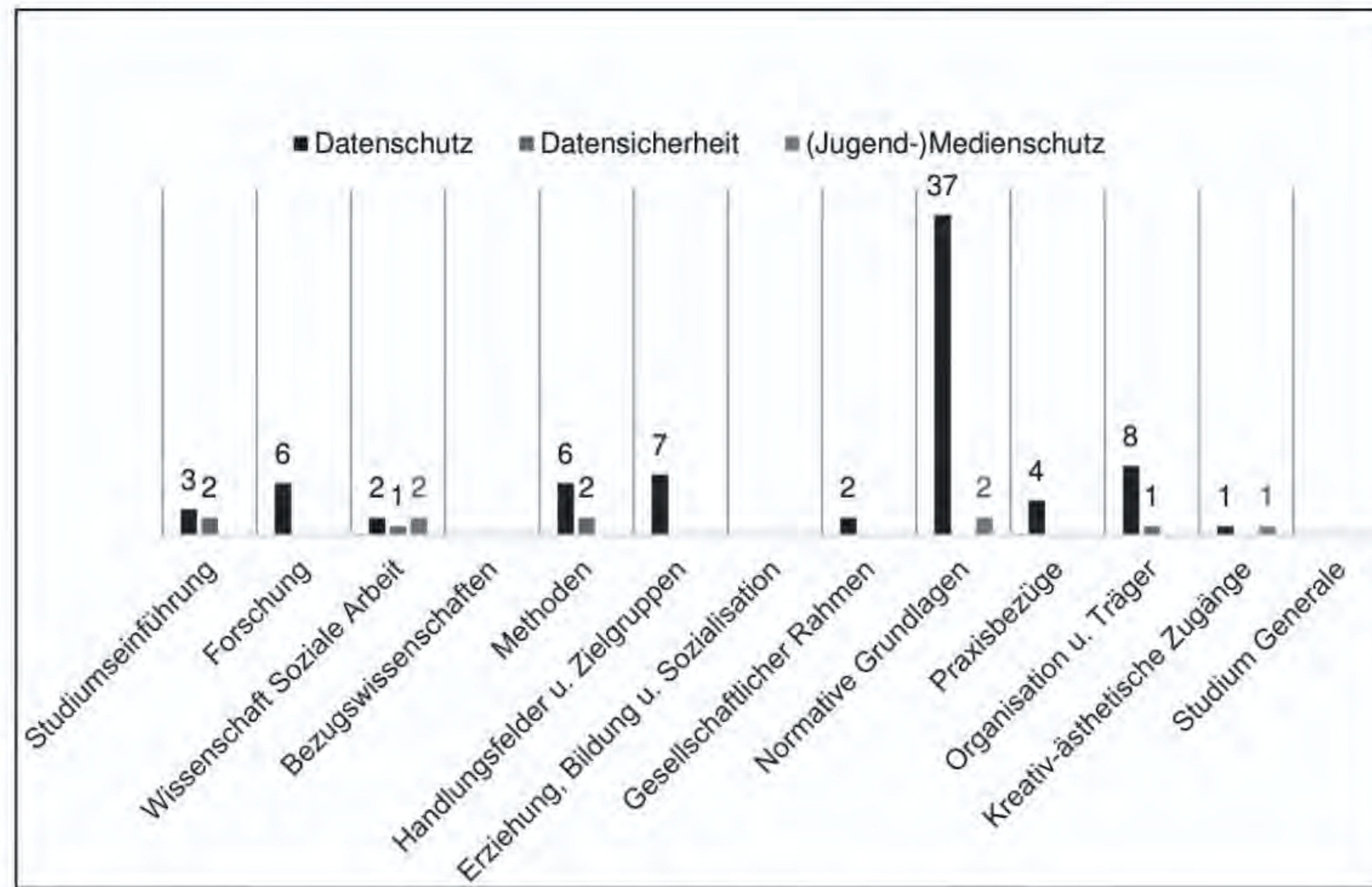
Weber (2020)

Herausforderungen

→ Habitustransformation [🙈🙊🙉 > 🐵]

→ Train the trainers [🎓🐕]

→ Forschungspraxis [🛠️ 🖥️ 🎛️]

Diskussion

0 questions
0 upvotes