

Research Article

Stereotyping in German Geography Classes – Secondary Teachers’ Challenges and Strategies

 Leoni Dörfel^{1✉},  Rieke Ammoneit¹ &  Carina Peter¹

¹ Philipps University Marburg, Germany

✉ Correspondence: leoni.doerfel@geo.uni-marburg.de

DOI: <https://doi.org/10.48088/ejg.l.dor.16.2.141.155>

Supplementary Material

2	Section A
3	Section B
4	Section C
5	Section D
6	Section E

Section A

Table 1. Overview of sampling (n=13; random listing).

Sampling	Gender	Age	Federal state	School type	Experience (grades)	Second subject
1	W	54	Hesse	kooperative Gesamtschule (KGS) ¹	5–9	Evang. religion
2	M	78	Thuringia	Gymnasium ²	5–13	German
3	M	31	Brandenburg	KGS	5–13	Biology
4	M	39	Lower Saxony	Gymnasium	5–13	Sports
5	W	49	Hesse	Gymnasium	5–13	Physics
6	M	39	Lower Saxony	Gymnasium	5–13	Sports
7	M	43	Lower Saxony	KGS	5–13	History
8	W	30	Hesse	KGS	Lower grade, 10 th .	Arts
9	M	58	Saxony	Gymnasium	5–12	Mathematics & In- formatics
10	M	57	Lower Saxony	Gymnasium	5–13	Biology
11	W	60	Hesse	Gymnasium	5–13	Evan. Religion
12	W	28	North-Rhine West-phalia	Gymnasium	5–13	Sports
13	M	26	North-Rhine West-phalia	Gymnasium	5–13	Sports

¹ A “KGS” combines a “Hauptschule” (general secondary school), “Realschule” (intermediate secondary school), and “Gymnasium” under one roof

² A “Gymnasium” represents the highest level of secondary education in Germany, culminating in an “Abitur.”

Section B

Table 2. Guidelines of semi-structured interviews with guiding questions and follow-up questions structured by the two thematic subfields.

Thematic block	Guiding questions	Follow-up questions
Stereotypes & stereotyping	<i>What do you personally understand by stereotypes?</i>	
	<i>What do you therefore understand by the process of stereotyping?</i>	<i>What stereotypes do you associate in relation to the subject matter?</i>
	<i>(Showing the definition of stereotypes): Do you agree with this definition of stereotypes?</i>	<i>Is there any deviation from your understanding? And if so, why?</i>
	<i>Are there examples of stereotypes or stereotyping in your geography lessons?</i>	<i>Are stereotypes reproduced, for example, through content; regions, countries, or continents; or materials in your geography lessons?</i>
	<i>How do you handle it when stereotypes are reproduced in your geography lessons?</i>	<i>Do you ignore stereotypes when they arise? Do you reflect on stereotypes with your students? Do you also critically examine stereotypes in your teaching?</i>
Challenges	<i>What additional support might be needed from external sources to adequately deal with stereotypes?</i>	<i>What challenges do you face regarding ... university education? materials? professional development?</i>

Section C

Table 3. Absolute n, absolute n by max. 1 per teacher, and relative occurrence within teachers and within the subcategory of socio-cultural reasons leading to stereotyping in geography lessons.

Socio-cultural reasons	Absolute n	Absolute (max. 13)	Relative (in subcategory)
a) A different cultural background	4	Absolute: 3	(18%)
- Proportion of foreigners	1	1	6%
- Limited cultural knowledge	2	1	6%
- Unfamiliar with other cultures	1	1	6%
b) Own cultural background	15	Absolute: 14	(82%)
- Cultural normativity	2	2	12%
- Eurocentrism bias	4	3	18%
- Value projection	1	1	6%
- Cultural identity	6	6	34%
- Simplification through socialization	1	1	6%
- Historical superiority narrative	1	1	6%
Total	19	17	100%

Section D

Table 4. Absolute n, absolute n by max. 1 per teacher, and relative occurrence within teachers and within the subcategory of educational policy challenges concerning stereotyping in geography lessons.

Structural (school-related) challenges	Absolute n	Absolute (max. 13)	Relative (in subcategory)
Lack of material	1	1	3%
Teachers need more freedom	1	1	3%
Diversity is not a core issue in schools, so focus is on other things; diversity is neglected	1	1	3%
Teachers' shortages and understaffing	3	3	10%
Limited transfer of research into schools	7	5	18%
Digitalization	2	2	7%
Assessment structure (reliance on tests)	1	1	3%
Large class sizes	1	1	3%
Lack of time	23	9	31%
- Missing project-based teaching	3	2	7%
- Lack of content basis	1	1	3%
- Proposed ideas	1	1	3%
- Lack of interdisciplinary teaching	1	1	3%
- Restricted creativity due to lack of time	1	1	3%
Total	47	30	100%

Section E

Table 5. Codebook.

Code	Definition
1. Challenges	There are several challenges teachers mentioned which might cause stereotyping directly or indirectly.
1.1 Teacher education	Applies to all challenges in teacher education and professionalization.
1.1.1 Reality shock	There are overwhelming experience many teachers face when transitioning from university to actual school settings. The gap between theoretical training and practical demands can lead to frustration, stress, and uncertainty. This disconnect limits teachers' ability to address issues adequately.
1.1.2 Constant changes in examination regulations	Constant changes in examination regulations during the teacher traineeship create uncertainty and confusion. The lack of clear communication and frequent adjustments make it difficult for trainees to plan effectively, adding to their stress and limiting their ability to focus on other issues.
1.1.3 Limited professional development	Geography teachers have limited access to professional development opportunities. Expanding regional and digital training formats could improve their knowledge and teaching strategies.
1.1.4 University education	Teacher training remains too theoretical, neglecting practical classroom realities. Many students drop out late in the program after realizing its demands, signaling a need for reform.
1.2 Students	Applies to all student-related challenges.
1.2.1 Lack of real-world relevance	The curriculum often lacks real-world relevance, making it difficult for students to connect lessons to their daily lives. This disconnect can reinforce stereotypes, as abstract or outdated content fails to challenge preconceived notions with practical, diverse perspectives.
1.3 Teachers	Applies to all teacher-related challenges.
1.3.1 Overburdened teachers	Teachers are overwhelmed by a wide range of responsibilities beyond teaching, including administrative tasks, student supervision, and lesson planning. This leaves little time for reflection, collaboration, or addressing complex issues like stereotypes in the classroom.
1.3.2 Teachers' hands are tied	Teachers have some flexibility but must meet curriculum requirements, leaving little room for alternative approaches.
1.3.3 Lack of exchange and collaboration	There is very little exchange between teachers, especially regarding problems. Yet, this could be a valuable resource for discussing challenges and developing solutions together.
1.3.4 Habit and stress limit ability	Teachers ingrained routines and high workload pressures restrict teachers' capacity. Under stress, educators often rely on familiar teaching methods, leaving little room for other methods.
1.3.5 High dropout rates	Dropout rates in teacher education result from various challenges, including high workload, inadequate preparation, and structural barriers. Stereotypes play a role but are just one of many factors contributing to this issue.
1.4 Resources and materials	Applies to all material-related challenges.
1.4.1 Commercial interests of textbook publishers	Textbook publishers prioritize marketability and longevity over inclusivity and diversity, resulting in limited representation in educational materials.
1.4.2 Social media promotes generalizations	Social media platforms often provide oversimplified or misleading information, shaping students' perceptions of geography topics. Teachers struggle to counteract this without robust digital resources.
1.4.3 Textbooks are outdated	Textbooks are often approved for many years, making them outdated. This is also reflected in the representation of stereotypes, which are reproduced uncritically.
1.4.4 Publishers are not progressive	Publishers are not progressive and tend to reproduce outdated content rather than incorporating new perspectives.
1.5 Political & educational policy	Applies to all challenges concerning educational policy.
1.5.1 Conservative & regressive education system	Germany's conservative education policies slow down reform efforts. There is little political will to adopt progressive approaches from other countries, leaving teachers burdened with administrative tasks. At the local level, right-wing tendencies further hinder multicultural education.
1.5.2 Unrealistic expectations for teachers	Teachers face systemic limitations that prevent them from driving meaningful change. Educational ministries must prioritize reforms, as teachers alone cannot overcome these barriers.
1.5.3 Low appreciation for geography	Geography is undervalued despite its relevance to critical topics such as climate change and cultural diversity. It is often treated as a secondary subject, and the transition from "Erdkunde" to "Geography" remains

	inconsistent. Teachers feel the subject's importance is not adequately recognized.
1.5.4 Limited lesson hours for geography	Limited lesson hours for geography mean that there is barely enough time to cover the curriculum content, often leading to generalizations.
1.5.5 Curriculum constraints	Overcrowded curricula leave little room for in-depth exploration of topics. Educational frameworks, such as KMK standards, limit flexibility, making it difficult to address stereotypes and diverse perspectives. Systemic changes require time and investment beyond what teachers can achieve alone.
1.5.6 Federalism	Federalism leads to inconsistencies in educational decision-making across states. For example, while most states abandoned the G8 high school system, North Rhine-Westphalia only recently adopted it, highlighting a failure to learn from past mistakes.
1.5.7 Slow implementation of reforms	The education system is often slow-moving, with reforms like digitization frequently delayed. Federal structures hinder swift implementation, and by the time changes take effect, they risk already being outdated.
1.5.8 Lack of transparency in curriculum development	Curricula are often designed by long-standing professionals in the education system who are disconnected from contemporary needs. The top-down approach to curriculum design is slow and lacks input from university didactic experts, reducing relevance.
1.5.9 Overloaded curriculum (G9 to G8)	The curriculum was not streamlined after the transition from G9 to G8, leaving an excessive amount of content that can often only be covered superficially. This increases the risk of stereotyping.
1.5.10 Course selection requirements in upper secondary school	Course selection requirements in upper secondary school mean that geography is not always a mandatory subject. However, the upper secondary level allows for more complex representations, making it an important stage to challenge and refine students' generalized perspectives. The lack of compulsory geography courses limits this opportunity.
1.6 Content / Subject-specific issues	Applies to all subject-specific challenges.
1.6.1 Geography is problem-oriented	Educational materials often emphasize problems without presenting solutions, leading to a negative perception of certain regions, such as Africa. A more balanced approach that highlights both challenges and positive developments is needed.
1.6.2 Complex subject matters	The complexity of processes and interconnections in geography requires a reduction of complexity. However, the fine line between necessary simplification and problematic generalization can lead to stereotyping, making the balance between comprehensibility and content differentiation a constant challenge.
1.7 Structural issues (schools)	Applies to all structural challenges in school.
1.7.1 Lack of material resources	Teachers are often unable to implement the practical and engaging methods they learned at university in everyday school life. There is a lack of necessary materials and suitable conditions to conduct experiments or use interactive approaches. This leads to frustration, as the inspiring methods that could spark students' interest in the subject are often not feasible in practice. An alternative solution remains unclear.
1.7.2 Teachers need more freedom	Teachers have limited options to implement changes because the education system is structurally conservative and slow to reform. Political decision-makers at all levels—federal, state, and local—do not prioritize education, keeping it in the lower ranks of governmental concerns. Instead of developing new ideas from scratch, policymakers could learn from countries with successful education systems and adopt proven strategies. However, systemic inertia prevents such progress. At the same time, teachers are overwhelmed with administrative tasks, student supervision, and organizational duties, leaving little room to innovate or improve their subject teaching. While grassroots initiatives could drive change, teachers lack the necessary time and support to make a significant impact.
1.7.3 Diversity is not a core problem	While diversity is an important issue, systemic challenges such as underfunding and rigid curricula often take priority, leading to a lack of focus on inclusivity.
1.7.4 Teachers shortages and understaffing	A lack of qualified geography teachers forces non-specialists to teach the subject, impacting educational quality.
1.7.5 Limited transfer of research into schools	Innovative research from universities often fails to reach schools due to structural barriers such as time constraints and entrenched traditions. This limits the implementation of new teaching approaches.
1.7.6 Digitalization	The digitalization of schools is often inadequate and presents another barrier. In an era of fake news, it is essential to reflect on these issues with students, but this is often not possible. As a result, potential stereotypes among students may be reinforced rather than addressed.

1.7.7 Assessment structures	The current exam format, particularly written tests, limits the flexibility of teaching. Lessons are often structured around preparing for exams, which reinforces a results-driven approach rather than deeper learning. Moving away from mandatory written exams in lower grades (e.g., grades 5–8) could reduce pressure and free up time for more critical, project-based, and multicultural education. However, the rigid school structure leaves little room for such approaches, as time for in-depth learning is simply not available in everyday school life.
1.7.8 Large class sizes	Overcrowded classrooms limit individual student support. Reducing class sizes would enhance learning outcomes.
1.7.9 Lack of time	Teachers struggle to create stereotype-free lessons due to heavy workloads and limited resources. Providing centralized teaching materials could help alleviate this burden.
1.7.9.1 Lack of project-based learning	The main issue is the lack of time and space to implement projects effectively. There is rarely an opportunity to approach such topics in-depth. While project weeks, which occur only every two years, could provide a chance to address these issues, they are not enough.
1.7.9.2 Lack of subject-specific foundations	Due to time constraints, students and teachers often lack a deep understanding of core geographical concepts. This can lead to oversimplifications and generalizations, reinforcing stereotypes rather than critically examining them.
1.7.9.3 Proposed ideas	Proposed ideas often face rejection due to time constraints and rigid curricula, limiting efforts to reduce stereotypes and enhance diversity in teaching.
1.7.9.4 lack of interdisciplinary teaching	Due to time constraints, teachers often lack the opportunity to collaborate with teachers from other subjects to bridge different subject perspectives and prevent a more holistic understanding of complex topics.
1.7.9.5 Creativity is restricted	Due to time constraints, teachers have limited opportunities to implement creative teaching methods. This restricts innovative lesson designs and alternative approaches, which could help address stereotypes and foster critical thinking.
2. Stereotyping	The concept of stereotyping is further differentiated below and divided into the categories of examples, causes, and strategies, each of which includes additional subcategories on multiple levels. According to teachers, stereotyping plays a significant role in geography education.
2.1 Examples of stereotypes	The teachers provided examples of stereotypes in geography lessons to illustrate how stereotypes appear in geography education. The examples of stereotyping can be classified in the following subcategories:
2.1.1 Country groups	stereotyping often occurs when categorizing nations (e.g., "developed," "developing," or "global south"). these groupings, while useful, can perpetuate oversimplified and judgmental views.
2.1.1.1 „Developing countries“	teaching materials frequently portray these countries as uniformly impoverished, ignoring their diversity and complexity.
2.1.1.2 „Global South“	This category includes stereotypes related to countries in the Global South, highlighting how these regions are often generalized in terms of poverty, underdevelopment, or conflict.
2.1.2 Students' background	stereotypes based on origin (e.g., countries) of students are prevalent in geography lessons. Can refer to different dimensions, such as ethnic, religious or cultural.
2.1.2.1 Orient	This category encompasses stereotypes about the so-called "Orient," often shaped by Eurocentric perspectives and historical Orientalism. Until recently, this topic was still called "Orient" in the curriculum. It has now been renamed "West Asia."
2.1.2.2 Syrian	teachers navigate sensitively to avoid making refugee students feel singled out.
2.1.2.3 Ukraine / Russia	teachers face challenges addressing stereotypes among students from ukrainian and russian backgrounds. these may stem from differing familial or media narratives, often resulting in tension or misunderstanding. teachers emphasize the importance of open dialogue to break down stereotypes.
2.1.2.4 Arabic world	stereotypes about the arabic world often surface in lessons, particularly regarding open lifestyles or cultural practices. this can lead to conflicts during discussions.
2.1.2.5 Parents	socioeconomic differences among parents can lead to stereotypes among students, such as assumptions about vacation destinations or lifestyle choices.

2.1.2.6 Social & economic status	The socioeconomic status of students still plays a significant role, as they are often disadvantaged. In general, this can lead to socioeconomically weaker students being more quickly stereotyped.
2.1.3 Continents	misrepresentations of entire continents are common.
2.1.4.1 Africa	often depicted as uniformly impoverished and underdeveloped, overshadowing its diversity.
2.1.4.2 Asia	stereotypes focus on industriousness and intelligence, failing to capture the region's diversity.
2.1.4.3 North America	common stereotypes about north america include the "land of unlimited opportunities" and the stark disparity between wealth and poverty. additionally, visuals, such as images of overweight individuals in discussions on diet, reinforce these stereotypes.
2.1.4 Countries	teachers often encounter stereotypes tied to specific countries.
2.1.4.1 Zimbabwe	often compared to germany in terms of economic development, zimbabwe is stereotyped as emblematic of "developing nations."
2.1.4.2 Bangladesh	commonly associated with overpopulation and poverty, overlooking its vibrant culture and economic advancements.
2.1.4.3 India	discussions often focus on issues such as poverty or caste systems, neglecting its modern advancements and diversity.
2.1.4.4 Alaska	often reduced to cold climates and wildlife, missing its indigenous cultures and geopolitical significance.
2.1.4.5 China	stereotypes center on communism, population size, and manufacturing prowess, ignoring its rich history and cultural contributions.
2.1.4.6 Germany	sometimes viewed by students through the lens of industrial and historical stereotypes (e.g., wwii legacy).
2.1.4.7 Nigeria	typically framed through lenses of oil dependence or conflict, ignoring its cultural and economic diversity.
2.1.4.8 Russia	frequently associated with authoritarianism and cold war imagery, overshadowing its contemporary global role.
2.1.4.9 USA	portrayed as a land of extremes (e.g., freedom vs. inequality), often with a focus on consumerism.
2.1.5 Thematic content of geography	
2.1.5.1 Social segregation	Social segregation is evident in unfamiliar regions but also within local contexts. It creates divisions where certain areas are associated with lower socioeconomic status while others are seen as more affluent. This spatial separation reinforces existing stereotypes and prejudices, which can manifest in everyday interactions and perceptions of different neighborhoods.
2.1.5.2 Migration	Discussions about migration often portray migrants either as needy individuals requiring assistance or as burdens on the host society.
2.1.5.3 Economy	Discussions on economic topics, such as industrialization, often emphasize extreme cases, particularly exploitation. This narrow focus can overshadow more nuanced perspectives.
2.1.5.4 Sustainability	Sustainability is often presented as an overly simplified ecological problem, focusing primarily on environmental aspects while neglecting the interconnected social and economic dimensions.
2.1.5.5 Poverty	Discussions on poverty often emphasize impoverished areas without acknowledging local resilience and adaptive strategies. This can reinforce stereotypes of helplessness while overlooking community-driven solutions, economic diversity, and social structures that contribute to stability and development.
2.1.5.6 Exploitation	Discussions on exploitation often center on labor issues in developing nations, emphasizing poor working conditions and unfair wages.
2.1.5.7 Equal opportunities	In the context of Germany, the idea of equal opportunities is often misunderstood as uniform access to education and career prospects. However, significant educational inequalities persist, influenced by socioeconomic background, regional disparities, and structural barriers within the school system. These inequalities are frequently overlooked in public discourse, leading to an oversimplified perception of fairness and accessibility.
2.1.5.8 Developing cooperation	Development cooperation is often framed in a paternalistic manner, portraying donor countries as benevolent helpers and reinforcing stereotypes of dependency. This narrative overlooks local agency, expertise, and self-sufficiency in recipient countries, perpetuating an imbalance in global power dynamics.
2.1.5.9 Birth rate	In discussions about birth rates in Germany, women are often blamed. However, this stereotype is used deliberately by the teacher to provoke students and stimulate discussion.

2.1.5.10 Inuit	There are stereotypes related to the Inuit, like not attending school, lacking mobile phones, or internet access.
2.1.5.11 Agriculture	The topic of agriculture is often reduced to soil degradation and the need for protection, though agriculture is not inherently negative.
2.1.5.12 Rainforest	There are stereotypical views about rainforests, such as people there not attending school, lacking mobile phones, or internet access.
2.1.5.13 Religion	Stereotypes are often perpetuated through other subjects, as students retain simplified knowledge. this can occur in religious education, for example, the idea that islam is solely based on the five pillars.
2.1.4.14 Tourism	In tourism discussions, students often discuss holiday destinations, leading to stereotypes such as the belief that only wealthier students can afford certain trips.
2.1.4.15 Physical geography	Physical geography topics can contain stereotypes. E.g.: Volcanism: emphasis is typically on danger, with the assumption that students expect "eruptions." however, many benefits and uses of volcanic activity exist. Deserts: deserts are stereotypically seen as only sand dunes, despite these making up the smallest portion of global deserts.
2.2 Reasons of stereotyping	What are the reasons of stereotyping through teachers perspective?
2.2.1 Ressources: Textbooks	Textbooks can reflect stereotypes through oversimplified representations.
2.2.2 Teacher	Teacher can reproduce stereotypes, e.g.:
2.2.2.1 Methodological choices	Influence how content is presented, sometimes reinforcing stereotypes. Extreme examples evoke emotions, while case studies may generalize individual traits to entire societies. Stereotypes can also be used strategically, e.g., linking obesity to images of overweight Americans. Older teachers relying on outdated materials may further perpetuate stereotypes.
2.2.2.2 Old teachers stereotype more frequently	Old teachers stereotype more frequently because they do not update their materials.
2.2.3 Educational policy guidelines	Due to a large number of prescribed topics, content must be condensed, increasing the risk of generalization.
2.2.4 Geography-specific & content related factors	The subject-content itself might reinforce stereotypes.
2.2.4.1 More stereotypes in higher grades	In higher grades, stereotypes occur more frequently, as younger students focus more on physical geography, where stereotypes are less prevalent.
2.2.4.2 Stereotypes are necessary	Stereotypes are often unavoidable as complexity cannot always be fully captured. They facilitate communication.
2.2.4.3 Automatization	Stereotyping happens automatically; everyone holds stereotypes to some extent.
2.2.4.4 Large scale in geography education	Lessons rarely focus on individuals, leading to broad generalizations about societies.
2.2.4.5 Complexity reduction	Complexity must be reduced for students; didactic simplification is part of the teaching process.
2.2.4.6 Problem orientation	Geography lessons often highlight problems, which may lead to a one-sided, negative perception of certain countries.
2.2.5 Students	Students can reproduce stereotypes (from teacher's perspective), e.g.:
2.2.5.1 Personal experiences	Students have different experiences and prior knowledge; stereotypes are often shaped by personal experiences.
2.2.5.2 Ambiguities	Students struggle with ambiguity, which can lead faster to stereotyping and black-white thinking.
2.2.5.3 Complex perspectives	Students find it difficult to differentiate between cultural, economic, and social perspectives.
2.2.6 Socio-cultural influences	Social-cultural influences can reinforce stereotypes.
2.2.6.1 „A different cultural background“	A) The foreign culture:
2.2.6.1.1 Proportion of foreigners	A low percentage of foreigners in a society can increase racism
2.2.6.1.2 Limited cultural knowledge	Limited knowledge about other societies leads to generalizations.
2.2.6.1.3 Unfamiliar with other cultures	The unfamiliar can provoke resistance, reinforcing stereotypes.
2.2.6.2 „The own cultural background“	B) The own culture / perspective:
2.2.6.2.1 Cultural normativity	When individuals see their own culture as the norm, they may unconsciously view others as different or even inferior.
2.2.6.2.2 Eurocentrism bias	Socialization shapes individuals' perspectives from an early age, often reinforcing a Eurocentric worldview. As a result, perspectives from non-European cultures are either marginalized, oversimplified, or framed through a European lens.
2.2.6.2.3 Value projection	People project their own values onto others, leading to generalizations.
2.2.6.2.4 Cultural identity	One's own cultural identity shapes perceptions and can contribute to stereotyping.

2.2.6.2.5 Simplification through socialization	Socialization normalizes one's own culture, making other cultures appear oversimplified.
2.2.6.2.6 Historical superiority narrative	The historical narrative of "our" culture fosters a sense of superiority, contributing to stereotyping.
2.3 Strategies in handling stereotypes	How do teachers handle stereotypes that emerge or are reproduced in geography lessons? The teachers mentioned different strategies:
2.3.1 Perspective shift	Encouraging students to consider different viewpoints, such as imagining migration from a personal perspective.
2.3.1.1 Needs and desires	Consider people's needs and desires (e.g., why do people migrate? What are their circumstances?)
2.3.1.2 Personal reflection	Encourage personal reflection e.g., on migration experiences
2.3.1.3 Concerning resources	Expand the perception of valuable resources (e.g., gold, diamonds → also wood is valuable)
2.3.2 Finding causes	Find causes to encounter stereotypes:
2.3.2.1 Reasons for migration	Examine reasons for migration (conditions, putting oneself in others' shoes)
2.3.2.2 Reasons for facts	Explore root causes behind factual developments
2.3.3 Student-related strategies	Encounter stereotypes by student-related strategies:
2.3.3.1 Teaching strategies	Teach strategies for handling stereotypes, that students can deal with stereotypes by their own.
2.3.3.2 Generate cognitive dissonances	Address cognitive dissonance: Students are usually embarrassed when confronted with cognitive dissonance. However, this has a lasting impact and creates an "aha" moment.
2.3.3.3 Checking on prejudices at the beginning of a topic	Check prejudices at the beginning of a topic and address them together directly.
2.3.3.4 Provoking and confronting	Provoke and confront students with stereotypes and resolve them afterwards.
2.3.3.5 Sensibilization (Racism)	Raise awareness of racism.
2.3.4 Professional development for teachers	Encounter stereotypes by professional development for teachers:
2.3.4.1 Awareness	Teachers need awareness to recognize and challenge stereotypes
2.3.4.2 Bridging university perspectives	Bridge university and professional perspectives to reduce stereotypes through knowledge and experience
2.3.4.3 Ability to arguing	Develop the ability to argue based on facts and reasoning to counter stereotypes
2.3.5 Teaching methods	To encounter stereotypes through teaching methods:
2.3.5.1 Tangibility	Use tangible objects to counter stereotypes and enhance retention.
2.3.5.2 Different media	Implement diverse media for multiple perspectives to counteract biases
2.3.5.3 Drawing	Have students draw ideas to surface and systematically address stereotypes
2.3.5.4 Virtual city tours	Utilize digital tools like virtual city tours to broaden perspectives (e.g., U.S. cities and ghettos)
2.3.5.5 Life timeline diagrams	Apply life timeline diagrams
2.3.5.6 Mystery	Using "mysteries" as a strategy to challenge stereotypes can engage students in critical thinking.
2.3.6 Outside the classroom	To encounter stereotypes outside the classroom, e.g.,
2.3.6.1 Recommending literature	Recommend literature to colleagues that challenges stereotypes
2.3.6.2 Lesson planning	Address stereotypes proactively in lesson planning
2.3.7 Dialogue & reflection	Encouraging open discussions, analyzing authorial intent (e.g., caricatures), and addressing stereotypes as they arise.
2.3.7.1 Misconceptions	Clarify misconceptions from surveys (to meet potential stereotypes).
2.3.7.2 Create neutrality	Creating neutrality to resolve stereotypical views.
2.3.7.3 Author intentions	Consider author intentions (e.g., caricatures): What is the author exaggeratedly drawing attention to? Avoid misinterpretations
2.3.7.4 Discussing	Discuss stereotypes in plenary.
2.3.7.5 Reflecting	Reflect to uncover and eliminate stereotypes
2.3.7.6 Conscious vs. unconscious	Differentiate between conscious and unconscious stereotyping with students.
2.3.7.7 Follow-up questions	Ask follow-up questions when student stereotyping may arise: "What do you mean exactly?" "Is that true?"
2.3.7.8 Differentiate	Differentiate perspectives with students to encounter stereotypes.
2.3.7.9 Resolving	Resolve stereotypes together with students (plenary)
2.3.7.10 Talking	Talk with students about stereotypes.
2.3.8 Reducation vs. complexity	Encounter stereotypes by complexity:
2.3.8.1 3th. Level requirement	Promote higher-order thinking and allow for differentiation.
2.3.8.2 Complexity	Create complexity to counteract stereotypes.
2.3.8.3 Spatial factors	Understand complex spatial factors to prevent stereotyping.
2.3.8.4 Diversity	Encourage multiperspectivity and diversity to avoid stereotypes.

2.3.9 Facted-based approaches	Unsubstantiated stereotypes should be avoided by researching, evaluating, and reflecting on facts. facts can then be used to challenge stereotypes or contextualize them.
2.3.10 Cultural approaches	Using cultural approaches to encounter stereotypes, e.g.:
2.3.10.1 Choice of language	The choice of language can reduce stereotypes. using careful, nuanced language can prevent generalizations.
2.3.10.2 Including culture	stereotypes often arise from ignorance of different cultures. including cultural aspects in lessons can counteract stereotypes by showing a more nuanced view.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of EUROGEO and/or the editor(s). EUROGEO and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions, or products referred to in the content.