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### Antecedents, implications, and professional development of teachers' multiculturalism

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## Appendix B

### Supplementary Chapter 4

#### Exploratory Factor Analysis

The value of Kaiser–Meyer–Olkin Measure of Sampling Adequacy (KMO) was .60, indicating that the strength of the relationships among items was mediocre, and Bartlett’s test of sphericity was significant,  $\chi^2(78) = 4583.719, p < .001$ . These results indicate that the data meets the assumptions for factor analysis.

The factor analyses were performed using the Principal Axis Factoring extraction method that, unlike Maximum Likelihood method, does not require to meet specific assumptions regarding the items such as normal distribution<sup>28</sup>. Initial EFA using Oblimin rotation and 3 forced factors indicated low correlations between the extracted factors, ranging between .10 to .33. We therefore reran the EFA using Varimax rotations that does not assume the factors to be correlated. The first of the extracted factors had an eigenvalue of 3.598 and accounted for 27.7% of the variance in the data. Factor two had an eigenvalue of 1.726 and accounted for further 13.3% of the variance. The last factor had an eigenvalue of 1.115 and accounted for another 8.6% of the variance. Together the factors accounted for 49.6% of variance. Both theoretical criteria and empirical criteria obtained from the EFA results were used to specify the multicultural education factors *content integration*, *prejudice reduction*, and *equity pedagogy* (see Table S1 for the factor loadings resulted from EFA).

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28 It, however, does not provide fit statistics such as chi square.

**Table S1**  
Culturally Responsive Teaching (CRT) Scale Exploratory Factor Analysis Results

CRT Scale Items	Factor Loadings		
	Factor 1	Factor 2	Factor 3
CRT1. Adjust instructions to cater to the needs of my students.	.24	.25	.02
CRT3. Assess whether my students rather work alone or in a group.	.48	.54	-.39
CRT5. Identify aspects in which the school culture (for example, values, norms, and practices) differs from the home culture of my students.	.43	.15	.48
CRT12. Establish community between students when my class exists of students from various backgrounds.	.36	.43	.62
CRT13. Use the cultural background of my students to make learning meaningful.	.59	.09	.40
CRT16. Obtain information regarding the cultural background of my students.	.48	.14	-.07
CRT19. Design a classroom environment with attributes that represent a variety of cultures.	.38	-.41	.13
CRT26. Help students establish positive relationships with their classmates.	.26	.57	-.24
CRT27. Revise educational materials to improve its' representation of cultural groups.	.73	-.21	-.05
CRT30. Design tasks in the classroom in a way which helps improve the understanding of students studying Dutch.	.71	-.13	-.18
CRT32. Help students feel like an important member of the classroom.	.17	.61	-.20
CRT33. Identify ways in which standardized tests can be prejudiced against culturally different students.	.79	-.36	-.20
CRT35. Make use of examples that are relatable for students from culturally different backgrounds.	.74	-.32	-.12

Note. CI = Content Integration, PR = Prejudice Reduction, EP = Equity Pedagogy

**Classroom Concentration Correlation Matrices for the Structural Equation Models**

**Table S2**

*Low Concentration Classroom Correlation Matrix for the Structural Equation Model*

Item	St_Eng_1	St_Eng_2	St_Eng_3	St_Eng_4	St_Eng_5	St_Eng_6	St_Eng_8	St_Eng_9	St_Eng_10	St_Eng_11	St_Eng_12	PeerRel_1	PeerRel_2	PeerRel_3	PeerRel_4	PeerRel_5	PeerRel_6	PeerRel_7	PeerRel_8	PeerRel_9	PeerRel_10	PR	EP	SD		
StEng_1	1.000																							0.63		
StEng_2	0.265	1.000																							1.00	
StEng_3	0.359	0.370	1.000																							0.79
StEng_4	0.319	0.221	0.346	1.000																						0.79
StEng_5	0.417	0.423	0.492	0.285	1.000																					0.89
StEng_6	0.552	0.250	0.390	0.298	0.343	1.000																				0.94
StEng_8	0.296	0.303	0.390	0.173	0.324	0.292	1.000																			1.13
StEng_9	-0.011	0.072	-0.012	0.078	0.044	-0.193	-0.066	1.000																		1.13
StEng_10	0.329	0.253	0.278	0.260	0.237	0.301	0.265	-0.019	1.000																	1.11
StEng_11	0.494	0.208	0.262	0.230	0.227	0.377	0.413	-0.032	0.428	1.000																1.03
StEng_12	0.376	0.377	0.363	0.191	0.388	0.313	0.454	-0.068	0.504	0.547	1.000															1.13
PeerRel_1	0.107	0.104	0.059	0.202	0.094	0.041	0.107	0.063	0.116	0.126	0.207	1.000														0.94
PeerRel_2	-0.091	-0.157	-0.137	-0.108	-0.183	-0.084	-0.070	-0.025	-0.172	-0.115	-0.228	-0.360	1.000													1.00
PeerRel_3	0.192	0.208	0.187	0.157	0.184	0.133	0.127	0.001	0.206	0.222	0.305	0.380	-0.559	1.000												0.84
PeerRel_4	0.145	0.157	0.117	0.190	0.141	0.153	0.107	0.061	0.199	0.195	0.274	0.575	-0.314	0.497	1.000											0.84
PeerRel_5	-0.068	-0.184	-0.067	-0.110	-0.182	-0.031	-0.028	-0.167	-0.195	-0.116	-0.158	-0.270	0.301	-0.254	-0.301	1.000										1.09
PeerRel_6	0.176	0.159	0.185	0.135	0.140	0.205	0.207	-0.050	0.229	0.253	0.298	0.467	-0.442	0.525	0.534	-0.194	1.000									0.84
PeerRel_7	0.069	0.147	0.035	0.138	0.057	0.100	0.111	0.060	0.185	0.168	0.262	0.413	-0.261	0.396	0.458	-0.306	0.492	1.000								0.95
PeerRel_8	-0.087	-0.196	-0.032	-0.080	-0.224	-0.057	-0.016	-0.234	-0.186	-0.111	-0.204	-0.377	0.358	-0.365	-0.432	0.561	-0.316	-0.516	1.000							0.99
PeerRel_9	-0.120	-0.136	-0.093	-0.162	-0.234	-0.089	-0.048	-0.118	-0.179	-0.128	-0.180	-0.431	0.405	-0.322	-0.346	0.463	-0.372	-0.472	0.622	1.000						1.19
PeerRel_10	-0.091	-0.086	-0.032	-0.077	-0.236	-0.050	-0.020	-0.256	-0.128	-0.098	-0.221	-0.220	0.148	-0.165	-0.256	0.301	-0.131	-0.316	0.465	0.356	1.000					0.85
CI	-0.133	-0.047	-0.092	-0.084	0.014	-0.104	-0.208	0.100	-0.104	-0.143	-0.131	-0.141	0.126	-0.191	-0.205	0.045	-0.216	-0.150	0.080	0.126	0.007	1.000				2.52
PR	-0.050	-0.031	-0.070	-0.045	-0.006	-0.138	-0.064	0.009	-0.037	-0.062	0.057	0.050	-0.044	0.007	0.019	0.011	0.004	0.048	0.003	-0.033	0.048	0.020	1.000			1.16
EP	-0.139	-0.004	-0.074	-0.072	0.013	-0.051	-0.207	0.086	-0.103	-0.126	-0.074	-0.049	0.095	-0.154	-0.097	-0.003	-0.147	-0.072	-0.005	0.056	-0.007	0.839	0.143	1.000	4.22	

Note: Items: St Eng = Reflective factors; Student Engagement (Items 1-6 behavioral engagement), Peer Rel = Peer Relationships; Formative factors: CI = Content Integration, PR = Prejudice Reduction, EP = Equity Pedagogy

**Table S3**  
*High Concentration Classroom Correlation Matrix for the Structural Equation Model*

Item	St Eng_1	St Eng_2	St Eng_3	St Eng_4	St Eng_5	St Eng_6	St Eng_8	St Eng_9	St Eng_10	St Eng_11	St Eng_12	Peer Rel_1	Peer Rel_2	Peer Rel_3	Peer Rel_4	Peer Rel_5	Peer Rel_6	Peer Rel_7	Peer Rel_8	Peer Rel_9	Peer Rel_10	PR	EP	SD		
StEng_1	1.000																							0.68		
StEng_2	0.197	1.000																							1.00	
StEng_3	0.304	0.390	1.000																							0.92
StEng_4	0.192	0.258	0.152	1.000																						0.74
StEng_5	0.346	0.486	0.603	0.311	1.000																					0.86
StEng_6	0.447	0.301	0.395	0.217	0.430	1.000																				0.90
StEng_8	0.344	0.311	0.319	0.130	0.327	0.349	1.000																			1.13
StEng_9	0.068	0.063	0.018	0.061	0.042	0.028	0.047	1.000																		1.16
StEng_10	0.196	0.414	0.313	0.269	0.410	0.255	0.254	0.016	1.000																	1.11
StEng_11	0.288	0.274	0.367	0.269	0.416	0.375	0.367	-0.003	0.299	1.000																1.03
StEng_12	0.351	0.396	0.450	0.266	0.473	0.339	0.329	0.075	0.457	0.426	1.000															1.06
PeerRel_1	0.067	0.082	0.058	0.037	0.089	0.055	0.118	0.053	0.016	0.120	0.057	1.000														0.94
PeerRel_2	-0.025	-0.131	-0.011	-0.062	-0.013	-0.010	-0.009	-0.097	-0.098	-0.068	-0.119	-0.244	1.000													0.83
PeerRel_3	0.110	0.145	0.051	0.103	0.112	0.088	0.123	0.106	0.127	0.173	0.161	0.302	-0.650	1.000												0.85
PeerRel_4	0.113	0.169	0.201	0.116	0.166	0.096	0.107	0.113	0.076	0.138	0.058	0.398	-0.297	0.482	1.000											0.89
PeerRel_5	-0.007	-0.165	0.025	-0.030	-0.050	0.046	-0.073	-0.184	0.014	-0.039	0.016	-0.295	0.257	-0.398	-0.420	1.000										1.09
PeerRel_6	0.142	0.172	0.144	0.071	0.219	0.112	0.184	0.176	0.106	0.220	0.113	0.408	-0.277	0.451	0.552	-0.229	1.000									0.84
PeerRel_7	0.069	0.179	0.160	0.147	0.166	0.084	0.112	0.081	0.116	0.140	0.096	0.347	-0.258	0.309	0.484	-0.321	0.431	1.000								0.91
PeerRel_8	0.012	-0.055	0.002	-0.042	-0.071	0.057	-0.016	-0.262	-0.022	0.008	0.047	-0.278	0.194	-0.340	-0.318	0.636	-0.286	-0.266	1.000							0.86
PeerRel_9	0.021	-0.070	0.018	-0.034	-0.024	0.068	0.008	-0.166	-0.029	-0.005	0.022	-0.378	0.263	-0.357	-0.357	0.433	-0.271	-0.206	0.434	1.000						0.98
PeerRel_10	-0.082	0.012	-0.005	-0.124	-0.107	-0.028	-0.073	-0.056	-0.035	0.032	0.017	-0.147	0.131	-0.149	-0.274	0.373	-0.169	-0.304	0.384	0.325	1.000					0.78
CI	0.031	0.070	0.026	-0.021	0.064	0.057	0.056	-0.017	-0.004	0.033	0.036	0.071	-0.103	0.139	0.087	-0.075	0.095	0.067	-0.034	-0.054	-0.109	1.000				1.57
PR	-0.008	-0.027	-0.057	0.017	0.036	0.032	0.069	-0.114	-0.053	0.014	0.015	0.118	-0.111	0.105	0.016	-0.019	0.072	0.061	0.059	-0.058	-0.069	0.491	1.000			1.23
EP	-0.002	0.052	0.040	0.032	0.142	0.101	0.134	-0.036	0.084	0.085	0.090	0.113	-0.096	0.114	0.073	-0.070	0.119	0.082	0.011	-0.045	-0.116	0.750	0.548	1.000	2.10	

Note: Items: St Eng = Reflective factors; Student Engagement (Items 1-6 behavioral engagement), Peer Rel = Peer Relationships; Formative factors: CI = Content Integration, PR = Prejudice Reduction, EP = Equity Pedagogy