

Teachers' concepts of man and pedagogical beliefs: Aspects that should not be neglected when discussing economic education

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Abstract

As teachers differ in their guiding beliefs on teaching and learning, as well as with regard to their individual value system, they also differ in their individual subjective assumptions about human nature in general. The characteristics of images of man can be found between the following theoretically defined ontogenic and sociogenetic stratifications: (1) nano-stratification consciousness-raising; (2) micro-stratifications knowledge and self; (3) meso-stratifications self-organized learning and pedagogical ethos; and (4) macro-stratification economy. The aforementioned stratifications form the substantive basis for empirically identifying different groups that can be characterised in terms of their assumptions of conceptions of man using a person-centred approach based on questionnaire data collected from 93 teachers. The article concludes with further discussion on the relevance of assumptions about concepts of man.

Keywords: teachers' conceptions of man, tension fields, pedagogical beliefs, latent class analysis

Zusammenfassung

So wie sich Lehrer:innen in ihren handlungsleitenden Überzeugungen zum Lehren und Lernen sowie in ihren individuellen Wertesystemen unterscheiden, unterscheiden sie sich auch in ihren individuellen subjektiven Annahmen über die menschliche Natur im Allgemeinen. Ausprägungen von Menschenbildern lassen sich hierbei zwischen den folgenden theoretisch definierten ontogenetischen und soziogenetischen Schichtungen verorten: (1) Nano-Schichtung Bewusstseinsbildung; (2) Mikro-Schichtungen Wissen und Selbst; (3) Meso-Schichtungen Selbstorganisiertes Lernen und Pädagogisches Ethos; und (4) Makro-Schichtung Ökonomie. Die genannten Schichtungen bilden die inhaltliche Grundlage für die empirische Identifikation verschiedener Gruppen, die sich anhand eines personenzentrierten Ansatzes auf der Basis von Fragebogendaten von 93 Lehrer:innen hinsichtlich ihrer Menschenbildannahmen charakterisieren lassen. Der Beitrag schließt mit einer weiterführenden Diskussion über die Relevanz von Menschenbildannahmen inhaltlich ab.

Schlagwörter: Menschenbilder von Lehrer:innen, Spannungsfelder, pädagogische Überzeugungen, latente Klassenanalyse

1 Introduction and research question

Education in general and within the economic sphere cannot be non-normative (Heid, 2006), since it is embedded in an institutional framework of a given society in which norms represent the standard for communicatively mediated interactions (Habermas, 1968). An anchor point – since it is shaped normatively on the one hand and norm-shaping on the other – is represented by *conceptions of man* as the crucial and change-sensitive variable of any individual value system, socio-political ideology, or economic paradigm. *Conceptions of man* serve as reference systems for the legitimation of systemic design principles and individual actions in different areas of society, as well as scientific disciplines (e. g., Da Veiga, 2015). Images of man express the total assumptions and beliefs about the *general nature of human beings*, which includes attributed characteristics regarding, for example, their psycho-physical (e. g., Beck, 1994), learning-related (e. g., Sembill, 2008), ethical (e. g., Harder, 2014), or social and economic characteristics (e. g., Markley & Harman, 1982; Schlösser, 1992). In this context, fundamental characteristics are attributed to humans, resulting in *summative and generalised ideas* about humans that have a certain universal validity (Müller, 2019).

In the *pedagogical context* in particular, images of human beings serve as a central basis for the legitimation of educational actions (Da Veiga, 2015; Wulf & Zirfas, 2014). The starting point here is the assumed characteristics of human beings, which relate to their need and ability to be educated (Ried, 2017); this subsequently conditions and legitimises theories of education, as well as concrete pedagogical actions (Stein, 2017). According to Bollnow (1965), every pedagogical reference system is borne by a particular conception of man, which forms the centre from which all single elements emerge. Consequently, images of man are the appropriate key to get behind the details of pedagogical doctrines (ibid.). This becomes clear, for instance, in the different conceptions of man of *John Locke* (1632–1704) and *Jean-Jacques Rousseau* (1712–1778), which are chosen as examples because they are diametrically opposed to each other. Locke's approaches are associated with the cultural perspective of heteronomy, which is characterised, among other things, by standardisation and external control. The learner is seen as an object and teaching-learning is based on a behaviourist understanding (Sembill, 2008). By contrast, Rousseau's conception of man assumes that a person strives for self-realisation (Stein, 2017). Rousseau's approaches can be associated with the cultural perspective of self-organisation, which itself is characterised by constructivism as the central teaching-learning paradigm (Sembill, 2008), among other things. Accordingly, different views of human beings determine different concrete pedagogical approaches, concepts, and actions (Da Veiga, 2015), and therefore shape teachers' *belief systems regarding teaching and learning*. In addition to a teacher's knowledge and skills, such perceptions, as a collection of ideas that pre-structure the perception of situations and facts (Sembill & Seifried, 2009), play a crucial role in teaching practice as they fundamentally influence teachers' decisions and actions (ibid.; Seifried, 2009).

Against this background, we address the following research question: Can teachers also be characterised empirically on the basis of their assumptions about human

beings, and to what extent are their beliefs regarding teaching and learning connected to their images of man? To answer this research question, based on a heuristic framework for modelling both ontogenic and sociogenetic stratifications in educational research, we first show different tension fields in order to locate general characteristics attributed to human beings and thus teachers' general assumptions about human nature (section 2). Secondly, the tension fields examined serve as a basis for an empirical cluster-analytical characterisation of teachers based on their assumptions about human nature and their views on teaching and learning (sections 3 and 4). The conclusions of our analysis are presented in section 5.

2 Tension fields in ontogenic and sociogenic stratifications

The starting point of our analysis is a *model of ontogenic and sociogenetic stratifications* in educational research (Sembill & Kärner, 2018; 2020). The framework appears to be capable of identifying assumptions about human nature because it integrates both sociogenetic and ontogenic processes within a systemic framework. Referring to Figure 1, we first address the right-hand section. Biological (nano), individual (micro), group interactive (meso), and societal (macro) stratifications (in both ontogenic and sociogenetic senses) emerge between *natural to ethical resources*. As the cross-stratification interactions of *growing & maturing*, *developing & learning*, and *shaping & socialising* in the middle of Figure 1 suggest, what is ultimately expressed as performances and culture, and for which internal dispositions, competencies, and memory processes are hypothetically attributed, is dependent on physiobiological processes (right edge of Figure 1). However, due to these interactions, what is socially, politically, economically, technically, and educationally assumed as an opportunity also affects the physiobiologi-

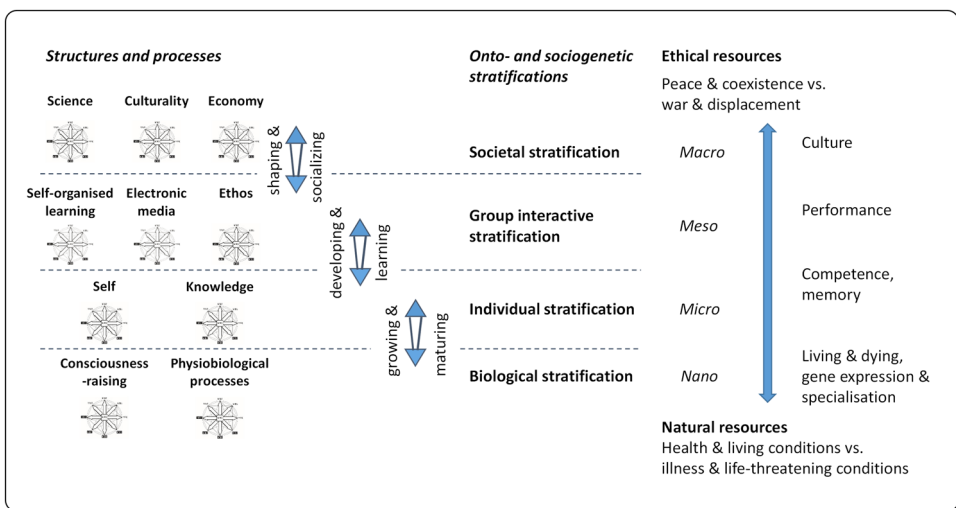


Figure 1: Structural framework of different processes across different stratifications (Sembill & Kärner, 2018)

cal processes – up to the possible change of the hereditary material (so-called epigenesis) (Sembill & Kärner, 2018).

Based on the ontogenic and sociogenetic structures and processes mentioned previously, *tension fields* between diametrically opposed or even antagonistic polarities can be located, prototypically between normative, ordered, and societal perspectivity *versus* free, chaotic-ideal, and individual perspectives. Balancing and evaluation processes play a central role in each stratification. In this regard, *evaluation* means the affective appraisal of internal and external stimuli, whilst *balancing* stands for equilibrating regulatory processes between antagonistic subject areas (Kärner et al., 2021a; Sembill & Kärner, 2018; 2020). The tension fields shown in Figure 2 form the substantive basis for empirically locating teachers' conceptions of man on the following tension fields in different stratifications.

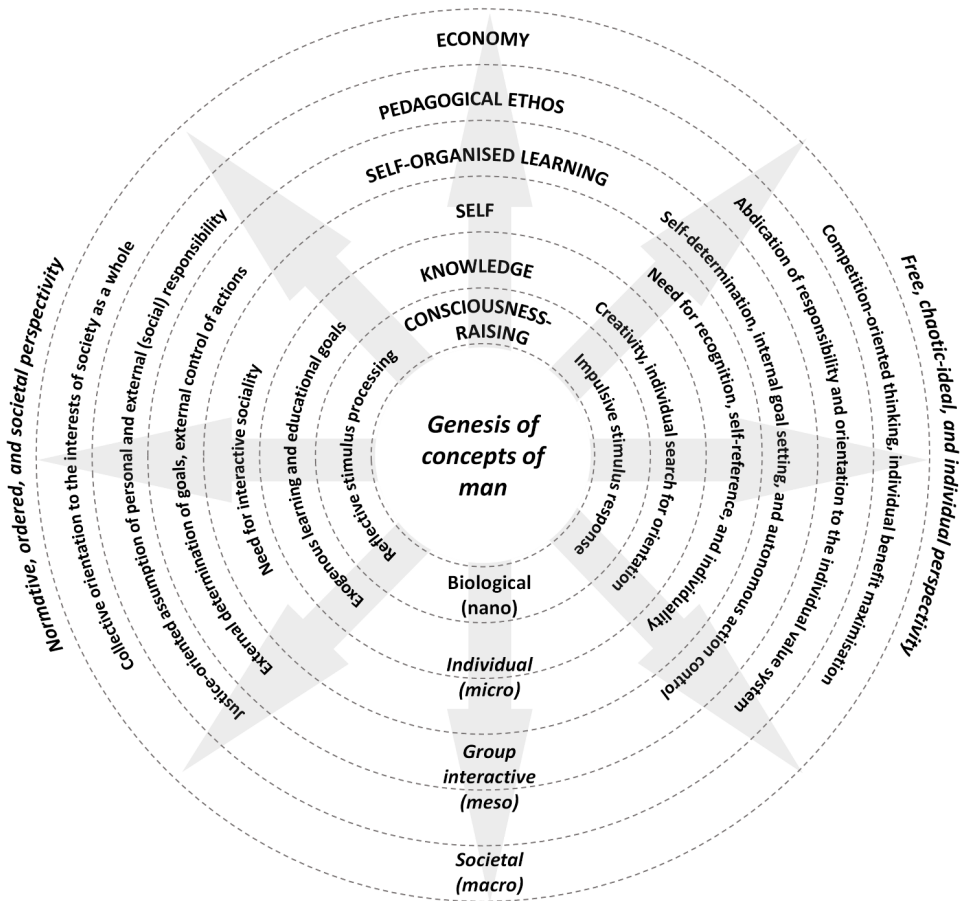


Figure 2: Tension fields in ontogenic and sociogenic stratifications

2.1 Tension field *consciousness-raising*: reflective versus impulsive

In the tension field between reflexivity versus impulsivity, a pseudo-reality emerges in the course of becoming conscious (Sembill & Kärner, 2020). Internal and external stimuli are registered, processed, and affectively tinted. In the course of action regulation, ascending and descending (re)appraisal processes are accompanied by impulsive affects (e. g., surprise or fright) up to conscious emotions (e. g., pride or shame) (Scherer, 1981; Sembill, 1992). In the corresponding psychophysiological processes, the interaction of two hypothetical systems is assumed in the course of *consciousness formation* (Masicampo & Baumeister, 2008). In general, *System 1* operates heuristically, intuitively, or impulsively, whereas *System 2* involves controlled, systematic, analytic, or reflective processes. Additionally, *System 1* requires few cognitive resources, operates quickly, and is associative, whereas *System 2* requires high cognitive effort, operates slowly and intentionally, and is rule-based (Kärner et al., 2021b).

2.2 Tension field *knowledge*: exogenously in need of education versus inherently capable of learning and development

With increasing awareness, internal and external stimuli become affectively tinted information and ultimately knowledge (Sembill & Kärner, 2018). In this tension field, a distinction is made between endogenous, implicit knowledge versus acquired, codified knowledge (Gopnik et al., 2000). Given knowledge acquisition, humans can thus be viewed on a continuum between inherent maturational learning and developmental capacity versus exogenous educational need and socialisation processes. The tension field in this respect ranges from endogenous creativity and learning ability to an individual search for orientation, on the one hand, to a search for external orientation security and the necessity for externally set learning and educational goals on the other. In particular, economic and business education faces this tension field between individual educational needs and company/economic qualification requirements (Heid, 1992; Sembill, 1995). Nevertheless, in this context the influence held by educators and teachers over formalised teaching-learning processes is overestimated because the meaning and “objective” relevance to action of knowledge enforced by teacher dominance in instructional settings is often not anchored within learners’ individual meaning systems and thus contrasts with their subjective relevance to action (Wuttke, 2005; Sembill et al., 2007).

2.3 Tension field *self*: social versus individualistic

The self/the own cannot be generated without the other/the foreign. Relationship formation is understood here as the balancing of one’s own orientation and behavioural security in the tension field between one’s own orientation and the need for recognition by others. The formation of one’s will also balances perceived or presumed expectations by others, especially in relation to the willingness to meet expectations or the rejection of wanting to meet expectations – or indeed the capacity to meet them (Sembill & Kärner, 2018). Thus, an individual has to evaluate and balance their perceived expectations and expectation fulfilment, in addition to their own needs and external

demands (Kärner et al., 2021a; Sembill & Kärner, 2018). The individualistic view of human beings is contrasted with a view of human beings that assumes the existence of a fundamental need for social interactions. According to this view, people are essentially guided by social rather than primarily individualistic motives, and they work, cooperate, and learn in social networks (Guckelsberger, 2006).

2.4 Tension field *self-organised learning*: externally-directed versus self-directed

In the group-interactive meso-stratification, the concept of self-organised learning (SoLe) can be located where individuals are required to deal with learning content in the tension field between individual, self-determined needs and the external interests of society (including economic and political interests) (Sembill et al., 2007). The perspective of self-organisation contrasts with that of external determination; the former is characterised in terms of both its epistemological approach by a constructivist understanding of teaching and learning, and the organisation of teaching and learning processes by decentralisation, subject-orientation, and bottom-up strategies. The latter perspective is therefore characterised by a behaviourist understanding of teaching and learning, hierarchical organisational structures, top-down strategies, and an instructional paradigm (Sembill, 2008; Seifried, 2009; Sembill & Dreyer, 2009). The tension between self-determination and heteronomy is further expressed in teachers' belief systems regarding teaching and learning. Indeed, teachers who tend to have a student-centred, learning-oriented, and *constructivist perspective* see themselves as responsible for students' learning and development process and as supporters of students actively shaping their own developmental genesis. In contrast, teachers who tend to have a teacher-centred, *instructional perspective* see themselves more as knowledge mediators, teaching as a necessity for conveying well-structured content, and learners as passive recipients of given content and structures (Seifried, 2009).

2.5 Tension field *pedagogical ethos*: responsibility-conscious versus responsibility-avoidant

Founded in the pedagogical ethos as a determinant of value-oriented action, teachers sometimes find themselves conflicted between individual needs and responsibility for the learners (Harder, 2014). On the one hand, the tension field lies between a sense of justice and the assumption of responsibility for oneself and others, and the abdication of responsibility and rigidity on the other; as a result, human beings can be characterised in terms of two endpoints of a continuum. One can be responsible for one's own actions and carry them out in a self-determined manner, as well as critically scrutinising and reflecting on one's external requirements. However, one could also be regarded as someone who uncritically accepts what is externally given to them (Heid, 2018). The development of both personal responsibility and considerate and morally responsible actions can be seen here as a central component of individual personality development in education (Oser et al., 2021).

2.6 Tension field *economy*: distributive justice versus maximising utility

Clearly, from the image of “homo economicus”, man at the macroeconomic level moves in the field of tension between an economic-ecological collective consciousness and an orientation toward the interests of society as a whole versus competitive thinking and the maximisation of individual benefit. Between distributive justice and the sustainable preservation of resources, on the one hand, and material growth orientation and exploitation on the other, the dimensions of *time* (deceleration vs. acceleration), *capital* (modesty vs. profit maximisation), *spaces of action* (regional vs. global), and *labour* (employment vs. unemployment) are located on the macroeconomic level (Rosa, 2005; Sembill, 2015; Sembill & Kärner, 2018; 2020). If we follow the current trend, we can see that economic principles are also increasingly being transferred to or implemented in the science sector and successively in the education sector as well (e. g., Münch, 2011). As a result of an increasing economic orientation in education and science, an ensuing replacement of the target variables of cognitive interest, self-purpose, and autonomy by the characteristics of efficiency, usability, and control can therefore be observed (Sembill, 2008; Kärner & Sembill, 2021). To this extent, Da Veiga (2015) also attributes an unprecedented influence on education to economics. He explains this with a needs-based societal shift, according to which society, and thus people, view material prosperity as the ultimate goal. Thus, the economy becomes the dominant system within the social subsystems and, at the same time, within education.

3 Method

3.1 Data collection and sample

The data on which our analyses are based were generated by means of a written survey, which was completed anonymously online via SoSci-Survey. The target group included both fully trained and trainee teachers of all age groups. The link to the survey was posted on target group-specific social networks and forums and via university mailing lists. A total of 457 people accessed the questionnaire provided, of which 182 began working through the questions. 89 persons discontinued the survey either before commencing or at the beginning of the relevant items, resulting in usable data sets of a total of 93 teachers.

The sample consists of a total of 57 females and 35 males (one case contained a missing value). The mean age is 40.8 years and on average the respondents have 11.5 years of professional experience. At the time of the survey, five persons were still in the preparatory service and 86 had already completed it (two cases contained missing values). The majority of the participants stated that they work in Germany; only one person teaches at an Austrian school. With regard to the total of ten federal states represented, it can be seen that the majority works in Baden-Wuerttemberg ($n = 48$) or North Rhine-Westphalia ($n = 23$). Regarding the type of school, most of the respondents work at a vocational school ($n = 37$) or at a grammar school ($n = 23$). Concerning

the subjects taught, there is a relatively wide range of natural science, humanities, and social science subjects.

3.2 Dealing with missing values and analysis strategy

Missing values (min. one case per item, max. six cases per item) are distributed almost equally among the single items due to the randomised item ordering. Missing values for the items assessing teachers' conceptions of man were multiply imputed by means of five estimates, which were subsequently averaged. This represents an adequate means of exploiting the available data as effectively as possible, especially in the case of small samples (cf. Marchenko & Reiter, 2009). IBM® SPSS® Statistics 27 was used to perform the multiple imputation.

In order to identify different groups of teachers, which vary in terms of their conceptions of man, we resorted to a latent class analysis; this was conducted using Mplus 8.4 (Muthén & Muthén, 1998–2017). Such typological approaches are well suited for exploring differences between groups of individuals who are similar within a given group in regard to the characteristics under consideration, but who differ as much as possible from individuals in other groups.

3.3 Operationalisation of variables

Teachers' conceptions of man

A self-developed German-language questionnaire was used to assess assumptions about the image of man in tension fields between ontogenetic and sociogenetic stratifications. Even if the single items were fundamentally formulated from a descriptive perspective, they always implied evaluative aspects as well. The items were asked on a 4-point Likert scale from 1 = "does not apply at all" to 4 = "applies completely". The following scales were assessed:

- Tension field *economy* (6 items, $\alpha=0.803$); e. g., "People take care of themselves first, even if it makes it harder for others to do so."
- Tension field *pedagogical ethos* (4 items, $\alpha=0.692$); e. g., "People like to take responsibility for themselves and for others."
- Tension field *self-organised learning* (5 items, $\alpha=0.650$); e. g., "People are motivated when they can choose between different action alternatives in a self-determined way."
- Tension field *self* (5 items, $\alpha=0.638$); e. g., "People have a need to be in the company of others."
- Tension field *knowledge* (5 items, $\alpha=0.637$); e. g., "It is important for people that the education system is primarily oriented toward economic requirements."
- Tension field *consciousness-raising* (4 items, $\alpha=0.596$); e. g., "People act impulsively rather than thoughtfully."

Teachers' beliefs regarding teaching and learning

Furthermore, the respondents were asked to give their personal evaluation regarding teaching and learning in general. According to Seifried (2009), the items were asked on a 6-point Likert scale ranging from 1 = "strongly disagree" to 6 = "strongly agree". The following scales were assessed:

- *Constructivist orientation* (11 items, $\alpha=0.805$); e. g., "In class, students learn best by discovering ways to solve problems themselves."
- *Instructional orientation* (9 items, $\alpha=0.743$); e. g., "In class, students should be required to solve tasks in the way they have been taught."

4 Results

4.1 Identification of classes

In light of the question investigating whether teachers' assumptions about human nature can be empirically classified, a latent class analysis was conducted. In order to determine a class solution that makes sense both statistically and in terms of content, several analyses were performed, each with a different number of classes. Information about their characteristic model fit was then compared.¹ In general, lower values for AIC, BIC, and ssaBIC indicate a better model fit (e. g., Schermelleh-Engel et al., 2003). However, Nylund-Gibson and Choi (2018) noted that it is not uncommon for the referenced information criteria to decrease further with each additional class. In this case, the point of diminishing returns should be examined, the so-called "elbow". Our analyses reveal that the AIC and ssaBIC values decrease at a commensurate rate with an increasing number of classes, whereas the BIC values increase from the 3-class solution once more. The likelihood ratio tests (VLMRT, aLMRT) indicate noticeable model improvements for the 3-class solution compared to the 2-class solution ($p=0.048$, $p=0.052$); the 4-class solution proves to be non-significantly ($p=0.327$, $p=0.338$) better than the 3-class solution. Taken together and weighing the metrics as well as content considerations, we chose the 3-class solution. For the 3-class solution, the entropy value was 0.849, indicating an acceptable classification (cf. Weller et al., 2020), and all cell frequencies exceeded the 5% of the total sample recommendation ($n=6$ for Class 1; $n=42$ for Class 2; and $n=45$ for Class 3) (cf. Marsh et al., 2009).

4.2 Characterisation of classes

In this section, the identified classes are characterised in more detail, as indicated by the respective absolute scale values and relative to the scale values of the other classes (Figure 3).

1. Class 1 ($n=6$, 6.5%) – Human beings are seen as impulsive, in tendency exogenously in need of education, individualistic, externally determined, rigid and re-

¹ Abbreviations for model fit information: AIC = Akaike's Information Criterion, BIC = Bayesian Information Criterion, ssaBIC = Sample-size adjusted Bayesian Information Criterion, VLMRT = Vuong-Lo-Mendell-Rubin Likelihood-Ratio Test (p -value), aLMRT = Lo-Mendell-Rubin adjusted Likelihood-Ratio Test (p -value).

- sponsibility-avoiding, competition-oriented, and utility-maximising: Teachers from Class 1 see humans as being characterised more by unconscious impulses than by reflectivity ($M = 3.17$, comparatively highest value for the consciousness-raising scale). Furthermore, they assume that it is important that the education system is primarily oriented toward economic requirements and assume less independent creativity and resourcefulness ($M = 2.50$, comparatively lowest value in the scale knowledge). The teachers from Class 1 see people primarily as individualists ($M = 2.63$, comparatively highest value for the self scale) and assume that it takes predetermined objectives and external action controls for people to learn and act ($M = 2.03$, comparatively lowest value for the self-organised learning scale). Additionally, the teachers from Class 1 assume that people tend to avoid situations in which they have to take responsibility for others and are instead oriented to an individual value system ($M = 3.13$, comparatively highest value on the pedagogical ethos scale). Furthermore, the teachers in question are of the opinion that people are more likely to act competitively and in a way that maximises individual benefit than in a way that is oriented toward the common good ($M = 3.11$, economy scale).
2. Class 2 ($n = 42$, 45.2%) – Human beings are seen as in tendency impulsive, inherently capable of learning and development, socially oriented, self-determined, in tendency rigid and responsibility-avoidant, competitive, and utility-maximising: Teachers assigned to Class 2 see man as impulsive ($M = 2.92$), as having resourcefulness and a self-determined will to learn and develop ($M = 3.04$), as well as possessing a need for social interactions and sociality ($M = 1.83$). Furthermore, teachers from Class 2 are characterised by their perception of individuals as self-determined and autonomously motivated ($M = 3.03$). With regard to the tension field pedagogical ethos, human beings are seen as somewhat rigid and responsibility-avoidant ($M = 2.85$). With regard to the tension field economy ($M = 3.15$, comparatively the highest value for the economy scale), it is evident that people are seen more as competition-oriented and benefit-maximising and less as being oriented toward the common good.
 3. Class 3 ($n = 45$, 48.4%) – Human beings are seen as in tendency reflective, inherently capable of learning and development, socially oriented, self-determined, fair and responsible, and in tendency oriented toward the common good: For teachers from Class 3, human consciousness tends to be characterised by a balance between impulsivity and reflexivity ($M = 2.51$; comparatively lowest score on the consciousness-raising scale). Furthermore, people are attributed creativity, resourcefulness, individual search for orientation, and an inherent will to learn and develop ($M = 3.39$, comparatively highest value on the knowledge scale), possessing a need for social interactions and sociality ($M = 1.63$, comparatively lowest value on the self scale), and exhibiting self-determination, autonomy-related motivation, and internal control of action ($M = 3.20$, comparatively highest value on the self-organised learning scale). In the tension field of the pedagogical ethos, the comparatively lowest value of $M = 2.26$ is illustrated, which indicates that the teachers from Class 3 assume a sense of social justice as well as the assumption of personal and external

responsibility in people. In contrast, the comparatively lowest value of $M = 2.58$ is found in the tension field of economy, which assumes that people maintain a balanced relationship between orientation toward the interests of society as a whole and individual utility maximisation.

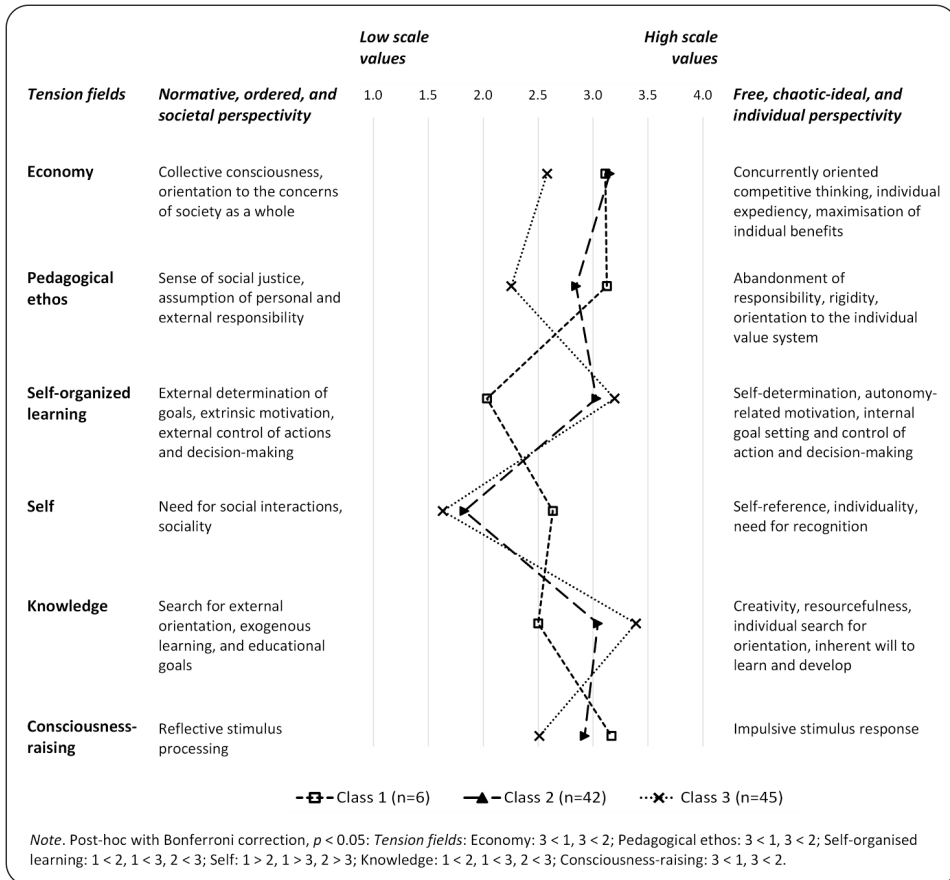


Figure 3: Class characterisation based on the images of man

The clearest contrast is likely between Class 1 and Class 3; this polarity is also evident in the surveyed beliefs regarding teaching and learning.² With a mean value of 3.53, the teachers from Class 1 were characterised by the comparatively *lowest* expression of the *constructivist* teaching-learning orientation and the *highest* expression of the *instructional* teaching-learning orientation ($M = 4.25$). Comparatively, the teachers from Class 3 have the *lowest* expression in the *instructional* teaching-learning orientation ($M = 3.21$) but the *highest* in the *constructivist* teaching-learning orientation ($M = 4.73$).

2 Post-hoc with Bonferroni correction, $p < 0.05$: Constructivist orientation: 1 < 2, 1 < 3; Instructional orientation: 1 > 3, 2 > 3.

In terms of sociodemographic characteristics, the three identified classes fail to differ significantly in terms of age, work experience, gender, or professional status. Further, there are no systematic associations with school type (Pearson Chi-Square = 9.371, $p=0.312$).

5 Conclusions

Based on a framework of ontogenic and sociogenetic stratifications, we were able to empirically characterise 93 teachers on the basis of their concepts of man by means of questionnaire data. The groups found differ not only with respect to their general assumptions about human beings but also in terms of their respective views on teaching and learning. If one assumes that corresponding views become effective in the concrete teaching process, since they condition, among other things, *didactic-methodical decisions and actions* (Seifried, 2009), then it would be necessary in a next step to investigate whether general assumptions about human beings also correspond in their didactic and communicative actions in teaching. It also seems to be of relevance that both teachers and students deal with the factors of development of human images and teachers' views on teaching and learning in an in-depth, conscious, and dialogical way. In addition to the theoretical and empirical description of human image assumptions, their *normative dimensions* must continue to be explicated in order to make them accessible to professional and societal discourse. With regard to the tension fields described (e. g., consciousness-raising: reflective versus impulsive; self: social versus individualistic), the poles presented each represent descriptive anchors, neither of which could be said to be "right" or "wrong" per se. The choice for one or the other therefore constitutes a normative positing. However, from a humanistic perspective, an understanding of education can serve as a possible orientation, which includes the ability to perceive one's own needs and the demands of others to reflectively but critically engage with others, to assume responsibility for oneself and for others, and to actively participate in and shape risky development processes in changing personal and social environments (Kärner et al., 2021a; Sembill & Kärner, 2018; 2020). Thus, a discourse on the corresponding images of man and their normative dimensions seems desirable because people are involved and make decisions in all contexts (education, economy, politics, etc.), and these people in turn have ideas about man in general and how man should be.

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