Teachers' Conceptions about the Child's Developmental Needs: A Structural Analysis

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ABSTRACT

Educational practice should be based on the developmental needs of the student, but teacher training rarely focuses on the link between those needs and practice. The aim of the present study was to investigate what teachers think about the needs of students. In this initial report of research on teachers' beliefs, 247 practicing teachers from the Republic of Tatarstan, recruited from continuing education/recertification classes conducted in Kazan, Russia, responded to a list of 26 statements drawn from Self-determination theory (SDT), Maslow's hierarchical theory of needs, and several other sources, rank-ordering them in terms of their importance for the child's healthy psychological development. The article presents the rank-ordering of teachers' beliefs about student needs as well as the factor structure of those needs. Two needs from SDT (relatedness, competence) ranked more highly than Maslow's needs, but, unexpectedly, teachers ranked the *need for meaning* most highly. Results indicated that autonomy was valued less than most other candidate needs, and, additionally, an unexpected factor structure emerged. The paper, which suggests caution when testing and utilizing existing constructs in new cultural contexts, will be of interest to researchers and educators alike as they work to strengthen the link between student needs and educational practice.

Introduction

An honest appraisal of the history of education leads to the conclusion that the needs of the student have not always been considered to be of any special importance in the educational process. As the American philosopher of education, John Dewey (1938), wrote many years ago: "The history of

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educational theory is marked by opposition between the idea that education is development from within and that it is formation from without; that it is based upon natural endowments [versus] that [it] is a process of overcoming natural inclination and substituting in its place habits acquired under external pressure".

In other words, there are two primary philosophies of education, each of which is based on a different understanding of the child and with important implications for practice (Ryan & Lynch, 2003). According to one of these philosophies, children are naturally curious learners, and education is about eliciting and fostering the talents, interests, and abilities of the student from the inside; the teacher's job, accordingly, is to promote a process that, to a large extent, is naturally unfolding, and to remove any obstacles to that process, when necessary. According to the other perspective, children are lazy and uninterested, and education is about instilling values and information from the outside; the teacher's job is to initiate, maintain, and, when necessary, enforce this process through rewards or punishments. The first of these perspectives is student-centered; the second is teacher- or institution-centered. Historically and for various reasons, throughout much of the world it is the second perspective that has had the dominant influence on the practice of education (Ryan & Lynch, 2003; Ryan & Weinstein, 2009).

But it is what these two philosophies of education say about the child that is most relevant for us here. Is the child a naturally curious learner, as the first of these perspectives asserts, or not, as the second perspective claims? The notion of curiosity as the basis of learning has also been referred to as *intrinsic motivation* (Ryan & Deci, 2000). As we will argue, the concept of intrinsic motivation is closely connected with the idea of basic psychological needs. We turn now to a brief discussion of these key constructs, and conclude by summarizing the literature which highlights the importance of these concepts for education, as well as the current gaps in our understanding that have led us to the present study. Although we began with a philosophical consideration, because teachers have the most direct contact with students and the most immediate impact on the child's educational experience, it is what *teachers* believe about the children they teach that most concerns us in the present study.

Intrinsic motivation, basic needs, and education

Intrinsic motivation

Intrinsic motivation refers to engaging in an activity for the interest or enjoyment that are inherent in the activity, itself (Deci & Ryan, 1985; Ryan & Lynch, 2003). The prototypical example of intrinsically motivated activity is play, and it is worth noting that play is a characteristic of much of the learning activity of childhood. Through play, children not only use their current skills, but challenge them, in the process stretching those skills and acquiring new ones. Notably, much research has observed that intrinsic motivation for learning decreases as children spend more time in school. This is not accidental, but happens systematically as a result of the consistent use of pressure and various reinforcement contingencies, such as rewards, which have been found to undermine intrinsic motivation for various activities, including learning (Niemiec & Ryan, 2009; Ryan & Lynch, 2003; Ryan & Weinstein, 2009). In other words, the decline in children's intrinsic motivation for learning during their

school years seems to be the direct result of our educational systems' having adopted the second of the two philosophies of education discussed above. On the other hand, research consistently shows that when intrinsically motivated, that is, when they engage in learning activities for reasons that feel more internal, personally valued and personally chosen, students consistently demonstrate better outcomes, including academic performance, perseverance at challenging tasks, creativity, retention (they stay in school longer, and are less likely to drop out), and well-being (Deci & Ryan, 1985; Vansteenkiste et al., 2004). There is also emerging evidence that these phenomena occur in various countries around the world (Chirkov, 2009; Jang et al., 2009; Zhou, Ma, & Deci, 2009). Given the evident importance and benefits of intrinsic motivation for learning, the question arises, how can students' intrinsic motivation be supported? This leads us to a discussion of the notion of psychological needs.

Basic psychological needs

The most influential contemporary theory that addresses the issue of needs is Self-determination theory (SDT; Deci & Ryan, 1985; 2000; Reeve, 2005). SDT is a theory of motivation, personality, and development that argues that children have a natural tendency to grow, to explore their environment, and to assimilate and integrate new experiences. In other words, children have a natural tendency to learn: they are curious, and intrinsically motivated to expand both their knowledge and their abilities. Although this tendency is natural and inherent in the child, it needs to be supported in order to flourish.

SDT suggests that intrinsic motivation – the child's natural propensity to explore and engage the environment for the satisfaction and enjoyment inherent in the exploration, itself – is fostered in environments that support satisfaction of the child's *basic psychological needs*. Conceptually, basic needs are the ingredients that are essential for the unfolding of the child's inherent, organismic growth process. An analogy can be made to the acorn: the full potential to become an oak tree already exists inside the acorn; all that is required for the emergence of this inherent growth potential is an environment that provides the needed nutrients, warmth, water, and so on. Similarly, when the environment provides supports for the child's basic needs, it is expected that the child's natural growth tendencies – including, importantly and primarily, the intrinsically motivated curiosity to learn, that is, to assimilate and integrate experiences, and expand one's current abilities – will naturally unfold. We emphasize that these needs are 'basic' in the sense that they are requirements, i.e., essential ingredients for the child's natural, organismic growth potential to be realized.

To date, SDT researchers have identified three such 'basic' psychological needs. The *need for relatedness* recognizes that humans are social beings, dependent on one another for their very survival (evident, of course, in the infant's dependence on caregivers). Meaningful and mutual relationships provide the context for human growth and development, throughout the lifespan. The *need for competence* refers to the importance of feeling capable of bringing about outcomes, sometimes referred to as mastery or self-efficacy. The *need for autonomy*, the third of the basic psychological needs identified in SDT, derives from the existential tradition, and suggests that we humans have a need to feel ourselves the initiators of our own actions, that we can make meaningful choices about goals that are personally valued.

Empirical research has demonstrated the importance of satisfying the three needs in a number of domains of activity, including sports (Ntoumanis & Standage, 2009), business and industry (Gagne & Deci, 2005), counseling and psychotherapy (Ryan et al., 2011), and, importantly, education (Niemiec & Ryan, 2009). Of the three needs, autonomy has received the greatest empirical support to date. Specifically, in need-satisfying classroom environments, students demonstrate not only greater intrinsic motivation for learning (Niemiec & Ryan, 2009), but also greater creativity, preference for challenging rather than easy tasks, better performance, longer retention, and better general well-being (Deci & Ryan, 1985). Of interest, as well, is the fact that the importance of the three needs has been demonstrated in a number of different countries around the world, including not only countries in North America and Europe but also China, South Korea, and Russia, among others (Chirkov, Ryan, & Sheldon, 2011). Thus, based on the existing evidence, it seems clear that satisfaction of the basic needs has important implications for the educational process. And although some teacher preparation programs make note of the concept of intrinsic motivation (Reeve, 2005; Reeve & Halusic, 2009), very little is done to anchor this motivational orientation in the basis of satisfaction of the child's psychological needs. Given the important implications for practice, how teachers think about students – as naturally curious, intrinsically motivated learners, or as uninterested and unwilling parties requiring external motivators in order to learn – is clearly relevant and needs to be explored. The present study aims to explore teacher conceptions about the child's psychological needs.

As noted, SDT has identified three basic psychological needs. In theory, the possibility remains that other basic needs exist. Indeed, despite the emerging empirical evidence for the cross-cultural importance of SDT's three needs (Chirkov, Ryan, & Sheldon, 2011), it has often been a criticism of SDT that it has assumed that this same set of three needs applies universally across cultures that may be very different from each other (e.g., Markus & Kitayama, 1991). For this reason, it seemed worthwhile to compare teachers' ratings of the three needs proposed by SDT with the needs proposed by another influential theory that of Maslow's (1987) hierarchy of needs, as well as with several additional need candidates, to be described below. We include Maslow's needs (self-actualization, self-esteem, safety, and physiological needs) because of their popular influence and familiarity, despite the fact that the empirical evidence in support of them has been questioned (Reeve, 2005).

Materials and Methods

Participants

There were 247 participants in our investigation. Of these, 195 (181 women, 14 men) had no missing data. Respondents were subject matter teachers, kindergarten teachers, pedagogical psychologists, managers of education departments from the city of Kazan, and regions of the Republic of Tatarstan (Russia). The age of the participants was between 20 and 60 years, and the mean age was between 35 – 40 years.

Materials

For our study, we developed original measures. We made a list of 26 potential developmental needs of the child. These items are based on content drawn from

Maslow's hierarchical theory of needs (*self-actualization*, *self-esteem*, *safety*, *physiological*), as well as E.L. Deci and R.M. Ryan's (1985) self-determination theory (*competence*, *relatedness*, *autonomy*). For added variety, we included in the list a statement reflecting a *need for meaning,* which is considered important from an existential point of view (e.g., Frankl, 1984). We included some other goals and requirements for the child in ordinary life situations, drawn loosely from the local culture (*other*). All of these candidate needs can be seen in Table 1. We asked our respondents to compare all of these statements with each other, and to assign a value to them in terms of their importance for the child's development using a rank-ordering procedure.

Participants were given the following instructions: "Before you is a list of 26 statements. Each statement reflects a conception about what is necessary for the full development of a child's personality as a psychologically healthy, successful and harmonious person. Each of the listed items is important and significant, however particular points might have a different degree of significance. Read the entire list, and then please compare all of these statements with each other, and assign a value to them in terms of their importance for the raising of a child, using the following procedure.

"Select the most significant statements (not more than 5) and place the number 1 next to them in the table (they occupy the first place, in terms of ranking). Then from the remaining statements select the next most significant (also not more than 5), and place the number 2 opposite them (second place). From all of the remaining again select the next most significant statements and place next to them the number 3. Continue to rank order the statements in the same way. If possible, make *no more than* 10 rankings."

Then followed the incomplete phrase, "I consider that for the full development of a child's personality, it is important that he/she…". The 26 candidate needs were then listed, in random order, with a column where the participant could indicate the ranking of each.

Statistical analyses

Data were analyzed by means of descriptive statistics, Pearson correlation analysis, and principal components analysis (PCA) with varimax rotation.

Results

Participants ranked the statements in order of perceived importance. Again, the number of categories into which need statements could be organized was decided by the participant. The majority of them (N = 80) created a set of 5 rankings or categories of importance. For the sake of convenience, the results of this group were analyzed for purposes of the present study.

The average value of each statement, standard deviation, and rank are presented in Table 1. As a second analytic step, we then combined statements on the basis of their original theoretical source and calculated the average scores for the 8 resulting groupings. Results are presented in Table 2. The existential need (meaning) was ranked first, followed by two needs drawn from SDT (relatedness, competence), and three needs from Maslow (self-actualization, self-esteem, safety).

Table 1. Average value, standard deviation, and rank of each statement

№	Statement	ā	(σ)	Rank
1	... be in friendly and warm relationships with the people with whom he regularly interacts	1.86	1.03	2
2	... feel that he/she handles his/her tasks well	2.88	1.18	11
3	... find significance and meaning for him/herself in life	1.84	1.18	1
4	... feel him/herself part of a community that is significant for him/her	2.89	1.32	12
5	... knows how to compete with others	3.24	1.34	17
6	... feel capable and successful	2.64	1.33	7
7	... experience a feeling of satisfaction from what he/she does	2.33	1.24	4
8	... master a profession interesting to him/her	3.04	1.32	14
9	... get along with those around him/her	3.25	1.30	18,19
10	... be capable when necessary of putting the interests of others above his/her own	3.99	1.22	25
11	... be free to make decisions about what to do, how to spend his/her time, etc.	3.25	1.33	18,19
12	... be obedient	4.08	1.32	26
13	... realize his/her abilities and gifts	2.43	1.17	6
14	... live in a predictable and safe society	3.13	1.45	16
15	... be him/herself in any situation	3.12	1.43	15
16	... felt him/herself surrounded by love and caring	2.14	1.42	3
17	... be provided for materially	3.46	1.48	21
18	... know how to love people and trust them	3.00	1.28	13
19	... take initiative	3.65	1.14	22
20	... continually strive to perfect him/herself	2.71	1.29	8
21	... have a high self-respect	3.67	1.27	23
22	... in any situation maintain faith and hope in a good future	2.80	1.32	9
23	... be self-confident	2.40	1.20	5
24	... feel freedom to express his/her thoughts and opinions	3.33	1.27	20
25	... have a feeling of his/her own worth	2.82	1.28	10
26	... respect and submit to people who by their position are called to make important life decisions for him/her	3.88	1.23	24

Note: ā – average, σ – standard deviation.

Table 2. Teacher ratings of the importance of various types of need for the child's development

child's needs	ā	Rank
life's meaning	1,84	1
relatedness (SDT-R)	2,56	2
competence (SDT-C)	2,57	3
self-actualization (Maslow)	2,71	4
self-esteem (Maslow)	2,96	5
safety (Maslow)	3,13	6
autonomy (SDT-A)	3,34	7
physiological (Maslow)	3,46	8

Note: ā = average. SDT-R = SDT's relatedness need; SDT-C = competence; SDT-A = autonomy.

In an exploratory mode, we considered it important to test what type of structure would emerge from the data, themselves. Descriptive statistics and Bartlett's test of sphericity (325, *p* < .001) permitted us to subject the data to a principal components analysis, with Varimax rotation, resulting in 11 components accounting for 70.29% of the variance. Results of the PCA are presented in Table 3.

Table 3. Component structure of the 26 need candidates presented to teachers

Factor		Statements reflecting child's needs	Theoretical basis of needs	Weight
1	5	… knows how to compete with others	other	.75
	26	… respect and submit to people who by their position are called to make important life decisions for him/her	other	.64
	10	… be capable when necessary of putting the interests of others above his/her own	other	.47
	23	… be self-confident	self-esteem	-.50
2	18	… know how to love people and trust them	SDT-R	.66
	6	… feel capable and successful	SDT-C	-.78
3	24	… feel freedom to express his/her thoughts and opinions	SDT-A	.69
	22	… in any situation maintain faith and hope in a good future	Other	.44
	13	… realize his/her abilities and gifts	SDT-C	-.75
4	16	… felt him/herself surrounded by love and caring	SDT-R	.79
	20	… continually strive to perfect him/herself	self-actualization	-.67
	25	… have a feeling of his/her own worth	self-esteem	-.41
5	12	… be obedient	Other	.79
	19	… take initiative	SDT-A	.56
6	1	… be in friendly and warm relationships with the people with whom he regularly interacts	SDT-R	.50
	15	… be him/herself in any situation	SDT-A	-.82
	11	… be free to make decisions about what to do, how to spend his/her time, etc.	SDT-A	-.55
7	3	… find significance and meaning for him/herself in life	Meaning	.85
	21	… have a high self-respect	self-esteem	-.49
8	2	… feel that he/she handles his/her tasks well	SDT-C	.74
	14	… live in a predictable and safe society	Safety	-.73
9	4	… feel him/herself part of a community that is significant for him/her	Other	.82
	8	… master a profession interesting to him/her	Other	-.57
10	7	… experience a feeling of satisfaction from what he/she does	SDT-C	.48
	17	… be provided for materially	Physiological	-.82
11	9	… get along with those around him/her	SDT-R	.81

Discussions

As seen above, teachers in Tatarstan prioritized *meaning* among the various need candidates. Given our earlier review of the literature, it is interesting that they considered the needs for competence and relatedness to be more important and underestimated the need for autonomy, compared to the other needs sampled (Table 2). The importance of this local finding should not be minimized. However, because prior research in the SDT tradition has found autonomy, in particular, to be especially important, both for the person's initiation of his or her own activity, and also for the greater effectiveness of that activity (Ryan & Deci, 2000), this discrepancy should be noted. In this sense, teacher conceptions contradicted contemporary innovative educational technologies, which rely on and develop the learner's autonomy. Although we were very interested in the perspective of teachers as local experts (indeed, a major goal of our study was to hear the voice of local experts), it is important to call attention to this discrepancy, which may have important implications both for practice and for future research.

The obtained factor structure differed from the theoretically predicted one (Table 3). Some factors included needs derived from a different source theory. And needs from the same theory were in some cases placed into different factors. This suggests, perhaps, that teachers perceived different associations among the various candidate needs proposed. At the least, the present study provides evidence that the factor structure of existing constructs, and perhaps the constructs, themselves, should not *a priori* be assumed, when attempting to import them into a new cultural context.

Conclusion

Our investigation uncovered some features of the "philosophy of childcare" in the observed sample. Some of those features could create difficulties for the effectiveness of introducing educational innovation. For example, teachers in Tatarstan underestimated the need for autonomy compared to the other needs sampled. In this sense, teacher conceptions contradicted contemporary innovative educational technologies, which offer flexibility and choice to the learner in his or her own educational trajectory, i.e. rely on and develop the student's autonomy. This means that when implementing innovative educational technologies, it is necessary to prepare teachers not only from the more properly technological side of the educational innovation, but also to determine the teacher's beliefs about the child's needs and to explore with the teacher the potential role of the need for autonomy in the child's successful development. At the same time, researchers would be well advised to attend to teacher conceptions about student needs within the context of the local culture, ideally designing jointly with those teachers both investigations and interventions to explore and enhance learners' meaningful, need-supporting and developmentally appropriate educational experiences.

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