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Article

Understanding Teacher's Humor and Its Attributes in Classroom Management: A Conceptual Study

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Abstract

Humor is a concept that has been examined so far in several fields of study such as health, philosophy, or history, to name a few. In education, the use of humor has been presented as a strategy which, when used sensitively, can create a pleasant atmosphere in the classroom that is not only conducive for student learning, but also for their personal growth. This article provides a conceptual analysis of this concept in the context of educational sciences. The objective of this study is to identify the defining attributes of the concept of humor in the field of education to better understand it and to foster its use by teachers. Walker and Avant's (2011) framework for concept analysis was used to analyze the concept. Humor can be identified by five attributes: (1) a skill; (2) a way to communicate; (3) an educational strategy; (4) a personal perspective; and (5) a positive emotional and behavioral response. This concept analysis clarified some of the ambiguities of humor found within the educational literature and proposed a definition of humor that is unique to classroom management. Our findings nonetheless lead to a more comprehensive understanding of humor in school, thereby constituting the first step in the study of its related concepts.

Keywords

Humor, conceptual analysis, classroom management.

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Classroom management has given place to several studies in the last few decades (Emmer, 1994; Emmer, Evertson, & Anderson, 1980; Marzano & Marzano, 2003; Matheny & Edwards, 1974; Milner IV & Tenore, 2010; Wolff et al., 2021). Considered as a key component of the teacher effect (Kyriakides et al., 2018; Kyriakides et al., 2020), classroom management is composed of several definitions that illustrate its complexity. Considering these definitions, classroom management is a multidimensional concept that includes dimensions such as classroom order and discipline (Mitchell & Bradshaw, 2013), both of which allow the teacher to teach and the student to learn. Over the years, other dimensions have been added to define classroom management such as "pedagogical practices" or "teachers' interventions" (Everston et al., 1983; Evertson & Emmer, 2009).

These notions of classroom management, therefore, illustrate teachers' daily work (e.g., effective teachers' behaviors, effective teachers' strategies, etc.) that should favor both learning and socialization (Brophy, 1998), and a classroom climate that is conducive to learning (Evertson et al., 1983). These practices and interventions need to engage, support, guide, and help students to achieve better results (Marzano & Marzano, 2003), all while seeking to encourage students' cooperation (Evertson et al., 1983). These practices and educational interventions should be effective at establishing, maintaining, and when necessary, restoring the learning climate (Dwiniasih et al., 2020; Tauber, 2007). Globally, classroom management deals with time, space, program of activities, codes, rules, procedures, human resources, and classroom material (Emmer & Sabornie, 2014).

Researchers pay particular attention to educational interventions that create and maintain a classroom climate that promotes learning (Charlton et al., 2020; Thapa et al., 2013). In fact, the scientific community will, for instance, explore the way in which rules and procedures are introduced in the classroom (Voight & Nation, 2016), study the ways in which classroom layout is arranged (Yuan et al., 2017) and classroom material is used by teachers (e.g., textbooks, teacher-prepared worksheets, etc.) (Matsumoto, 2019), or analyze the relationships that students develop and cultivate with their peers and their teachers (Nurmi, 2012). Teachers who use humor when interacting with their students find it easier to create a relaxed atmosphere (Martin & Ford, 2018). The use of humor has a very positive impact on social interactions in the classroom. It is not unrelated to the fact this strategy is one of those that students appreciate most in a teacher (Martin & Ford, 2018). Knowing this, it is surprising that humor has received limited attention in classroom management research (Wanzer et al., 2010).

The study of humor in the school context has mainly been carried out on the types of humor used by teachers in the classroom (Bryant et al., 1980; Gorham and Christophel, 1990) and the reasons why teachers use this strategy (Aylor & Opplinger, 2003; Bryant & Zillmann, 2014; Conkell et al., 1999; Davies & Apter, 1980; Downs et al., 1988; Frymier & Weser, 2001; Kaplan & Pascoe, 1977; Sadowski et al., 1994; White, 2001), without emphasizing the understanding of this concept. In pedagogy, some authors suggest that the use of humor is a practice that makes a course more interesting (Berk, 1996; Garner, 2006). In fact, teacher's humor positively influences students' motivation to learn (Conkell et al., 1999), the classroom climate (Kosiczky & Mullen, 2013), and the quality of the teacher/student relationship (Aylor & Oppliger, 2003; Kosiczky & Mullen, 2013). When a teacher adopts this strategy, the student's perception of the learning environment becomes more positive (AbdAli et al., 2016).

In terms of learning, students have an easier time learning complex concepts (Abdulmajeed & Hameed, 2017; Özdemir, 2017) and perform better when the teacher uses humor (Abdulmajeed & Hameed, 2017; Al-Duleimi & Aziz, 2016; Berk, 1996; Hackathorn et al., 2011; Rafiee et al., 2010). Consistent with these observations, a team of researchers found that students are more engaged when their teacher make good use of humor (Hoad et al., 2013). As for teachers, humor makes them feel more satisfied at work and is a strategy of resilience that helps them cope with stress (Berk, 1996; Booth-Butterfield et al., 2007; Mawhinney, 2008). The work of Banas et al. (2011), in their systematic review on humor in education, pointed out the positive effect of humor on teachers' feedback, students' positive emotions and attention, as well as student's perception toward their teachers' competence and credibility. Meta-analyzes in research areas such as workplace environments

(Mesmer-Magnus, 2012), intimate relationships (Hall, 2017), the media (Eisend, 2009), psychology (Mendiburo - Seguel, 2015), and communication (Walter et al., 2018) have all reported a positive influence of humor.

To this day, there is no consensus on the definition of humor in the scientific literature. Indeed, several researchers emphasize the incongruous nature of humor, the simultaneous presence of words which can be contradictory or incompatible and which give rise to laughter or to a smile provoked by this internal psychological conflict (Martin & Ford, 2018). While Gervais and Wilson (2005) also emphasize the incongruous nature of humor, others emphasize the importance of verbal and non-verbal communication in humorous interactions (Booth-Butterfield & Booth-Butterfield, 1991).

In the light of that, defining this concept always seems to be a challenge. To date, few authors have attempted to bring out conceptual dimensions of the concept of humor, commonly referred to as "defining attributes." To our knowledge, only one conceptual analysis has been conducted specifically on the concept of humor (Tanay et al., 2013). This study was carried out in the field of public health using the methodology developed by Walker and Avant (2011). Without specifically aiming to examine this concept through the lens of educational sciences or psychology, this analysis determined that humor in the field of public health is made up of six defining attributes: (1) comic, absurd, incongruous, and impulsive situation, remark, character, or action; (2) recognition and expression of incongruities; (3) a positive and subjective emotional response; (4) related to trust; (5) enhances feelings of togetherness and closeness; (6) a coping mechanism. These attributes were identified mainly through an analysis of the definitions of humor derived from the field of public health. The authors analyzed twelve scientific articles containing definitions of humor regarding the treatment of cancer patients. Although a considerable number of literary, philosophical, educational, linguistic, and psychological works have been devoted to humor, this concept still does not have any precise definition (Martin & Ford, 2018), particularly in the field of educational sciences.

Taking stock of research related to these defining attributes, the objective of this study was to identify the defining attributes of the concept of humor in the field of education to better understand it and to foster its use by teachers. The practical and scientific benefits of understanding the concept of humor in the classroom are significant; we can cite the possibility of better preparing students in initial training and helping teachers who are at the start of their careers and might have difficulty creating a climate conducive to learning (Karsenti et al., 2015). Scientifically, this study highlights the importance given to the impact of teachers' humor on students' adaptation to school, while indicating the need to examine mid- and late-career teachers' resilience through this pedagogical practice, especially in a context where the professional dropout of teachers remains very high (Karsenti et al., 2015). On the psychometric level, a thorough understanding of the concept of humor will allow the development of more comprehensive instruments that can measure the fundamental dimensions of this concept. From this perspective, scientists indirectly advise to clearly define the components that will truly reflect its very nature, and to accumulate some evidence of validity: Researchers should develop instruments measuring the functioning of factors that provide data about both qualitative and quantitative characteristics. To do so, not only should the construct validity of the instruments be examined but also the validity of the measurement framework [...] (Creemers & Kyriakides, 2008)

Method

Research design

To clarify the concept of humor and to determine its defining attributes, we used the methodology of Walker and Avant (2011). Deriving from the work of John Wilson (1963), this approach seeks to accumulate evidence of validity. This method has been used to analyze concepts such as "teamwork" (Xyrichis & Ream, 2007), "school belonging" (St-Amand et al., 2017), "school decline" (St-Amand, 2018), and "aggressiveness" (Liu, 2004). The method of Walker and Avant (2011) has also been used to analyze "peer support" (Dennis,

2003), "quality of life" (Meeberg, 1993), and the concept of "fatigue" (Ream & Richardson, 1996). The fundamental element of this methodological approach refers to its main objective, which is to determine the defining attributes of a concept under study "Its basic purpose is to distinguish between the defining attributes of a concept and its irrelevant attributes" (Walker & Avant, 2011).

Procedure

According to Walker and Avant (2011), eight steps are necessary to conduct such a study. The first three steps of their methodology represent the first section of the analysis and required targeting an important and relevant concept (step 1). The objective must then be specified by the researcher (step 2); in the case of the present study, the objective was to determine the defining attributes of the concept of humor. The final step of the first section (step 3) sought to identify examples of the use of humor from different fields and from various documentary sources.

The second section of this conceptual analysis consisted of steps four, five, six and seven. As Walker and Avant (2011) suggested, these steps are completed simultaneously. The defining attributes, also called defining characteristics, are established in step 4. In this step, we aimed at finding the attributes most often cited by researchers in their definitions to describe the concept. In the analysis of these definitions, the objective was also to list the units of meaning representing the determinants and the impacts. "Determinants" refer to situations, incidents, or events that occur before the emergence of humor in the classroom; "impacts" refer to the elements occurring because of the emergence of humor in the classroom. Step 4 allowed us to simultaneously complete step 7, which sought to identify the determinants and the impacts of the use of humor in the classroom.

This way of carrying out the analysis ensured that the defining attributes were better detected. To carry out this analysis, as will be discussed later, a content analysis was carried out using the qualitative analysis software QDA-MINER to target the defining attributes, determinants, and impacts. Steps five and six of this analysis required determining the defining attributes first. Indeed, step five required developing a model case that illustrates as closely as possible a real example of humor in the classroom. For its part, step six sought rather to present a contrary case and a borderline case. First, a contrary case is an example of what the concept is not. Second, although it possesses some defining attributes, the borderline case is not a complete illustration of humor due to the lack of one or more defining attributes. These steps paved the way for the final step. Thus, step eight of the analysis constituted the last step of the third section and sought to determine the empirical referents. It was about identifying the main instruments for measuring the concept under study (Walker & Avant, 2011).

Results

Steps 1 and 2: Choosing the concept and defining the objective

Having previously chosen the concept under study, namely humor in the context of classroom management, the second step was to find the objective of the conceptual analysis (Walker & Avant, 2011). Thus, the objective of this study, as previously stated, was to identify the defining attributes of the concept of humor in the field of education to better understand it and to foster its use by teachers.

Step 3: Determining the uses and the scope of the concept

Within different disciplinary fields, the third step of the analysis aimed to examine the use and scope of the concept of humor (Walker & Avant, 2011). The various uses of humor, either implicit or explicit, and not limited to educational sciences, were considered to better understand the scope of the concept. This step therefore began with a careful reading of the documents listed.

Inclusion and exclusion criteria. Given the small number of conceptual studies available to date on the concept of humor in schools (Tanay et al., 2013), we have opted for flexible inclusion and exclusion criteria. This

flexibility enabled us to consider definitions from scientific articles, books, and book chapters in French and English.

Literature search. To examine this concept (English language keywords: humour / humor), (French language keywords: humour), we used general search engines such as Google and Google Scholar, as well as specialized search engines like PsyInfo, Eric, and Francis. We have been flexible in the year of publication of the listed sources in order not to exclude older but important research. Since humor began to arouse interest in the scientific community in the 1970s (Cousins, 1979), we have mainly considered the documentation from that time by taking into account several disciplinary fields, as advocated by Walker and Avant (2011). In the end, we mainly retained the documentation spanning from 1970 to 2018 within fields such as educational sciences (Aylor & Opplinger, 2003; Banas et al., 2011; Berge, 2017; Conkell et al., 1999; Frymier et al., 2008; Garner, 2006; Kosiczky & Mullen, 2013; Petitjean & Priego-Valverde, 2013; Ziyaeemehr et al., 2011), psychology (Avtgis & Taber, 2006; Martin et al., 2003; Martin & Ford, 2018; Mindness, 1974) and, to a lesser extent, sociology (Kuipers, 2006) and health sciences (McCreaddie et al., 2010). Following the first review of the literature, a careful reading was conducted to target more definitions. Based on these readings, we conducted a second analysis of the documents to identify other relevant documents.

Use of the concept

Clarifying a concept required determining its uses within different areas of research. This practice facilitates the understanding and scope of the concept under study (Walker & Avant, 2011).

Humor in history. One need only take interest in the concept of humor to realize that it has been discussed for a very long time. In fact, the concept of humor dates to ancient Greece, more specifically to the Greek physician Hippocrates during the 4th century BC. Hippocrates had introduced the Latin term "humorem" to speak of the different elements that affect the health of individuals (Wickberg, 1998). The term "humorem" was subsequently replaced by the term "humor." It was during the 16th century that humor was defined as unusual behaviors that inspired laughter or ridicule and which subsequently gave rise, in the 19th century, to the modern concept of humor (Willibald, 1998).

Humor in literature. Don Nilsen (1993) wrote a few years ago: "Humor is a very important aspect of much of children's and adolescent literature." Mallan (1993) corroborates this observation in his book *Laugh Lines: Exploring Humor in Children's Literature*, indicating that humorous characters are key components of writing for children and adolescents. During the 17th, 18th, 19th, 20th, and 21st centuries, whether in the writings of Robert Burton or those of Charles Dickens, humor is indeed present in literary works for all age groups (Martin & Ford, 2018).

Humor in the fields of psychological and physical health. Sigmund Freud is undoubtedly one of the precursors of humor in the field of mental health, notably in two publications, namely a work entitled *Jokes and their relation* to the unconscious (Freud, 1905) and an article entitled *Humor* (Freud, 1928). In 1905, Freud described humor as one of the most important defense mechanisms that enable individuals to deal adequately with complex problems (Freud, 1905). Today, humor is still seen as a very important resilience factor for individuals. These psychological benefits are in addition to the many physical benefits of humor, as laughter therapy positively affects the physical health of individuals (Ghodsbin et al., 2015).

Step 4: Defining attributes

Determining the defining attributes is the central step of this analysis. In general, authors consider the concept of humor in the light of their fields of study. In the present context, it is a question of determining the defining attributes emanating both from the field of educational sciences and, to a lesser extent, from other related

fields of research. This analysis made it possible to simultaneously complete step four and step seven of the conceptual analysis. The definitions were integrated into the QDA-MINER qualitative data software to identify the units of meaning. Step four resulted in five defining attributes:

- 1. Skill. This attribute refers to a skill, action, or competence put forward by a teacher. In this context, several definitions highlight the intentional, although sometimes spontaneous, character of this action, which is in a way dependent on the skill, talent, or competence of the teacher (Petitjean & Priego-Valverde, 2013).
- 2. A way to communicate. This attribute derives from the definitions emphasizing the relational aspect of humor. In this context, humor refers to a mode of communication giving rise to bursts of laughter on both sides (Banas et al., 2011), as well as the telling of jokes, situations, or humorous stories that constitute an important basis of the concept of humor (Kuipers, 2006). Humor is defined here as a form of communication perceived to be humorous (Conkell et al., 1999).
- 3. Educational strategy. In addition to being considered a coping mechanism (McCreaddie et al., 2010), humor is above all an instructional strategy that has benefits for teachers (e.g., psychological well-being) and students (e.g., school engagement) (Garner, 2006; Kosiczky & Mullen, 2013). In sum, educational researchers have integrated the educational value of humor into their definitions (Ziyaeemehr et al., 2011).
- 4. Personal perspective. For other authors, humor constitutes a point of view, a perception, and a state of mind. In this context, a situation can be considered funny to some but not to others (Mindess, 1974).
- 5. Positive emotional and behavioral response. This attribute appears mainly in definitions from the field of psychology. Researchers qualify humor as positive behavioral and emotional responses to a stimulus (Avtgis & Taber, 2006; Tanay et al., 2013).

Considering these defining attributes, a definition of humor in the classroom context is presented:

Whether planned or spontaneous, humor in the classroom is a skill displayed by the teacher and a form of communication containing very specific objectives, such as wanting to improve the classroom climate, to reduce students' anxiety, to resolve conflicts, to improve and maintain social ties, to encourage school engagement, and, ultimately, to support students' academic achievement. Much more than a unique pedagogical approach that can be modeled from one individual to another, teachers' humor is characterized by a subjective and personal character that is specific to each teacher. When effectively conducted teachers', humor elicits positive emotional and behavioral responses from students.

Step 5: Model case

As discussed above, it was necessary to determine the defining attributes to develop the cases representing steps five and six of this conceptual analysis. All the cases were therefore developed based on these defining attributes.

Model case. The model case aimed to synthesize all the defining attributes in a real-life example (Walker & Avant, 2011). This case seeks to illustrate with great accuracy an example reflecting as closely as possible a plausible situation where humor could take place in the classroom. The model case presents Stephane's situation.

Stephane is a dynamic young teacher at the start of his career. For three years now, he has sought to innovate in his pedagogy by participating in several seminars in the human and social sciences. He teaches history at the secondary level and seeks to present in the classroom the contents of his courses in a fun way (attribute 2) to promote learning and students' engagement, as well as to develop strong social ties with his students (attribute 3). For his next lesson, he aims to compare a historical event in the curriculum (attribute 1) to a personal anecdote that he perceives to be funny (attribute 4). After having told his anecdote, Stephane observes several of his students laughing out loud or smiling (attribute 5). He told himself that humor not only influenced his students, but also had a positive effect on his own motivation.

Step 6: Borderline case and contrary case

In this analysis, it is necessary to develop related cases to illustrate the concept under study (Walker & Avant, 2011). The borderline case represents a situation where there is an absence of one or more attributes. The contrary case, on the other hand, presents a situation opposite to the concept under study. We will discuss the borderline case and the contrary case.

Borderline case. The borderline case has some defining attributes, but the lack of one or more defining attributes is the reason why it can't be considered the concept under study (Walker & Avant, 2011). The following borderline case presents the case of Christine.

Christine is a sixth-grade teacher. She is in her second year as a teacher, and she is making great efforts to develop an environment conducive to learning. Since the start of her career, she has never stopped wanting to imitate an older colleague who has become effective in developing strong social bonds with her students. In fact, at the start of her Monday morning class, and having thought about her anecdote the day before, Christine decides to tell her students about what had happened to her during the weekend (attributes 1 and 4). The pupils listen attentively to Christine's anecdote (attribute 2). Although Christine considers this anecdote to be fun, she is surprised to witness no positive reactions from her students (e.g., laughs, smiles, etc.). From then on, she decides to move quickly to the first activity of the day. The attributes three and five are absent.

Contrary case. This case is a concrete example of what your concept is not (Walker & Avant, 2011). In other words, it illustrates a contrary example. This case is in a way the antonym of the concept under study. The following case presents Charles's situation.

Charles began his teaching career five years ago. As both of his parents were in the military, they believed in an authoritarian education. Charles has been influenced by this style of education to such a degree that it has inspired him in his teaching. In his classroom, in fact, he takes great care to establish a whole system of rules and procedures to keep students always disciplined. Refusing any suggestions made by his students through democratic discussions and participatory processes, he is in fact not very tolerant regarding student behaviors that are not perfectly aligned with his system of discipline. As Michelle disturbs the class during individual assignments, Charles tells her in front of the class that she is constantly disturbing her peers and that maybe that's why she failed the last exam. Although intended to make the students laugh, Charles's reaction generates instead great discomfort for Michelle and her peers. Michelle finally decides to leave the classroom humiliated while crying (absence of all the defining attributes).

Step 7: Identifying the determinants and the impacts

Step seven of the conceptual analysis aimed at identifying the determinants and impacts associated with the concept under study. The determinants were the elements or incidents that occur before the emergence of humor in the classroom. The impacts for their part represented the events that arise because of teachers' humor. Table I presents the determinants and the impacts, as well as the defining attributes.

Table I. Key elements of the conceptual analysis.

Determinants	Defining attributes	Impacts	
The teacher first displays an intention to use humor for educational purposes	Skill	Positive therapeutic impact of humor (e.g., reduced stress)	
The teacher has a low level of conservatism in his or her teaching	A way to communicate	Positive pedagogical impact of humor (e.g., increased school engagement, strengthening of social relationships)	
	Educational strategy		
	Personal perspective		
	Positive emotional and		
	behavioral response		

Step 8: Identifying measuring scales

The last step of the analysis seeked to identify the scales used to measure the concept under study (Walker & Avant, 2011). In other words, a simple question needs to be answered: If we must measure humor, how should we do it? In this context, the literature review of the definitions of humor was done in parallel with the identification of the measurement scales used to measure our concept. Thus, we show the strengths and limitations of each of these scales, which are essentially quantitative (see table II).

In educational sciences, Berk (1996) developed the *Humor Effectivness Evaluation* (HEE) with the aim of measuring different dimensions related to humor, such as the emotions (e.g., a decrease in levels of anxiety), academic achievement, and pedagogy (e.g., humorous strategies used by teachers in the classroom). For their part, Frymier et al. (2008) developed the *Teachers Humor Scale* (THS) for measuring adequate and inadequate forms of teachers' humor in the classroom. To achieve this, 41 items were developed to represent different dimensions of humor, such as humor related to the content taught, humor denigrating others, and humor not related to the content taught, to name a few.

In psychology, Martin et al. (2003) developed the *Humor Style Questionnaire* (HSQ). This tool aims at identifying the types of humor the teacher is most likely to use. This instrument is made up of scales that refer to different types of humor, such as humor promoting affiliation and humor promoting self-esteem. The score associated with each scale determines the participant's humor style.

In clinical psychology, Thorson and Powell (1993) developed the *Multidimensional Sense of Humor Scale* (MSHS). The main objective of the MSHS is to measure the sense of humor and its social and adaptive dimensions. For their part, Martin and Lefcourt (1983) developed the *Coping Humor Scale* (CHS). The purpose of this scale explores how well an individual can use humor to deal with stress.

Table II. Strengths and limitations.

Measurement scales	Strengths	Limitations		
Humor Effectiveness Evaluation (HEE)				
Composed of 22 items (five-point Likert scale), the HEE is a	Defining attributes			
questionnaire that measures dimensions of humor such as the	#3 and #5 are	The scale does not measure the		
reduction of anxiety and humorous strategies used by teachers in	measured by the	behavioral impact of humor.		
the classroom.	HEE.	_		
Teachers' Humor Scale (THS)				
	Defining attributes	The scale measures the impact of		
The THS (five-point Likert scale) comprises 41 items measuring	#1 and #5 are	humor on student behaviors. It does		
adequate and inadequate forms of humor in the classroom.	measured by the	not measure whether the types of		
	HEE.	humor stimulate student learning.		
Humor Styles Questionnaires (HSQ)				
Composed of 32 items (seven-point Likert scale), the HSQ	Defining attributes	The sealer of seasons the season of the		
measures different types of humor, such as humor promoting	#1, #2, #4, and #5	The scale places emphasis on the psychological aspect of humor and		
affiliation and humor promoting self-esteem.	are measured by the	less on the educational one.		
	HSQ.	icss on the educational one.		
Multidimensional Sense of Humor Scale (MSHS)				
	Defining attributes			
Composed of 29 items (five-point Likert scale), the MSHS	#1, #2, and #4 are	The scale does not place emphasis		
measures humor and its social and adaptive dimensions.	measured by the	on the educational aspect of humor.		
	MSHS.			
Coping Humor Scale (CHS)				
The CHS measures the extent to which an individual uses humor	Defining attributes			
in stress management. This scale is composed of seven items	#2 and #5 are measured by the CHS.	The scale is limited to the emotional and therapeutic aspects of humor.		
describing fictitious situations in which the participant could use				
humor to manage stress. Respondents are asked to indicate on a				
four-point Likert scale whether they agree or disagree with these				
items.				

Discussion

The objective of this study was to identify the defining attributes of the concept of humor in the field of education to better understand it and to foster its use by teachers. This conceptual analysis revealed five defining attributes. Classroom humor is therefore: (1) a skill; (2) a means of communication; (3) an educational strategy; (4) a personal perspective; and (5) positive emotional and behavioral responses. Among these five defining attributes, four (attributes 1, 2, 4, and 5) corroborate in some respects the results of the conceptual analysis conducted by Tanay et al. (2013).

First, this analysis suggests that teachers should make people laugh through jokes, scenarios, or humorous stories (attribute 2) while having a personal perspective (attribute 4). Considering these two attributes, Tanay et al. (2013) considers humor a natural phenomenon that is often associated with the understanding of jokes, laughing, absurdity, and comedy. The complex processes that take place in the interval between teachers' jokes and students' understanding of them are explored by theorists. Inspired by several theoretical perspectives in the field of psychology (Berlyne, 1960; Cacioppo & Petty, 1984; La Fave et al., 1996; Petty et al., 1981; Petty & Cacioppo, 1986; Zillmann & Cantor, 1996), Wanzer et al. (2010) developed a theory adapted to the context of education (*Instructional humor processing theory*) which attempts to explain the complex processes involved in the relationship between teachers' humor and students' learning.

This theory allows us to examine and better interpret how the teacher's humor is processed and perceived by students on an emotional level, in order ultimately to explain how students learn. According to this theory, students must first recognize an incongruity in the teacher's message and then interpret and resolve it. If the incongruity is not resolved, the student will not perceive the humorous message and may be distracted or confused by the teacher's message. But if the student resolves the incongruity, he or she may perceive a humorous message and laughter may result; in this context, the nature of the humorous message and how it is emotionally interpreted determine whether humor facilitates students' engagement in school. As a matter of fact, Wanzer et al. (2010) suggest that the positive affects generated by adequate humor motivate students to engage in the task; on the other hand, inadequate humor has the opposite effect.

Second, our analysis determined that humor should be defined through the lens of positive emotional and behavioral responses (attribute 5). Tanay et al. (2013) suggest that humor helps ward off negative emotions and preserve positive emotions. This perspective seems to be corroborated by several studies. Indeed, in the field of mental health, experimental research (Dienstbier, 1995; Vilaythong et al., 2003), clinical research (Gelkopf et al., 1993; Rotton & Shats, 1996), and correlational research (Anderson & Arnoult, 1989; Nezu et al., 1988) have shown that humor predisposes individuals to experience positive emotions that influence psychological well-being. Our study also reveals that the teacher must be skilled to use humor effectively (attribute 1). This attribute emphasizes the intentional and spontaneous nature of such a practice. For their part, Tanay et al. (2013) argue that humor can be planned as a routine or employed spontaneously.

From this perspective, Wanzer et al. (2006) determined the different kinds of humor that can be generated in a planned or spontaneous way by teachers in the classroom. To do this, these researchers asked 284 students to distinguish between adequate types of humor and inadequate types of humor. An exploratory factor analysis made it possible to distinguish different types of humor, such as humor associated or not associated with the content of the course, and self-mockery. Frymier et al. (2008) aimed to improve the previous typology. An exploratory factor analysis was conducted on 41 items (352 students), giving rise to five types of humor: (1) humor related to the content taught (adequate); (2) humor unrelated to the content taught (adequate); (3) self-deprecating humor (adequate); (4) humor denigrating others (not adequate); and (5) rude, vulgar humor (not adequate). Whether humor is planned or not, there are different types of humor teachers can use to animate their classes and to develop strong social bonds with their students.

Despite these convergences, divergences are noted. In the study by Tanay et al. (2013), the notion of "coping mechanism" constitutes a defining attribute. These authors argue that cancer patients and their families experience very stressful situations. In this context, developing a strong sense of humor would be a fundamental ingredient of the adaptation mechanism for fighting cancer. In addition, humor is said to be an element helping nurses deal with difficult patients. Although this perspective cannot be modeled in its entirety for the educational sciences, we have instead established humor as an educational strategy (attribute 3) that can act as an adaptation mechanism for students while helping to foster their sense of belonging to school (Osterman, 2010). Since the feeling of belonging has a very important social and adaptive dimension (St-Amand, Bowen, & Lin, 2017), and teachers' humor fosters those social bonds (Osterman, 2010), it is possible to note the key role that humor can play in students' adaptation to school and in bringing teachers / students together. As Ojha and Holmes (2010) noted, "shared laughter implicitly contributed to their mutual understanding of one another."

Conclusion

There have been very few conceptual studies aimed at better understanding the nature of humor in the classroom. This situation gave rise to the possibility of exploring that concept further. From this perspective, it would be desirable for the research community to study its related concepts to distinguish humor from concepts such as "laughter," "Wit" (i.e., saying intelligent but funny things), and even "jokes". As Walker and Avant (2011) indicate, the related concepts are similar in some respects to the concept under study but do not constitute the essence of the latter. Potential future work could seek to better distinguish humor from its related concepts, in hopes of measuring them more adequately in research. Comparing results would thus be easier. Given the breadth of the lexical field, a research project on humor's related concepts would be beneficial to the scientific community. Our findings nonetheless lead to a more comprehensive understanding of humor in school, thereby constituting the first step in the study of its related concepts.

Also, research efforts are necessary and desirable to distinguish, where appropriate, teachers' humor from the humor practiced by students in school. From the students' point of view, it appears that humor is mainly related to coping mechanisms and to social life. In a study of Russian students, Artemyeva (2013) pointed out that humor is helpful in overcoming social problems. Among students, noted Artemyeva (2013), humor turns into jokes and, therefore, into a "social event": "For instance, when in the evening a group of friends discuss the events that took place during a stressful day and the problems that used to seem distressful and exorbitant, the stressful situations can be perceived as being ridiculous."

It is imperative to understand a pedagogical strategy to use it in an effective and judicious way in the classroom. By emphasizing the definitions from the educational sciences, our methodological approach has made it possible to better understand this concept (i.e., to distinguish the defining attributes, determinants, and impacts) as well as to develop a new definition intended for the classroom context. In classroom management, teachers require a comprehensive range of strategies to overcome the many challenges that arise daily. Whether students are aggressive, demotivated, weak, hyperactive, inattentive, immature, shy, rejected by their peers, or provocative, the teacher's humor, when used properly, can help mitigate some of these issues. We nevertheless agree on the important role of initial and in-service training of teachers in the development of their skills in classroom management, and on the necessity of teachers' openness in the establishment of such a practice.

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