

Non-Hierarchical Learning: Sharing Knowledge, Power and Outcomes

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Abstract

Arguing that every student has the capacity to succeed and that every student must be provided with the opportunity to reach their full potential, this article introduces a new pedagogic approach that draws on a wide range of influences. Linking theoretical practices from sociology, pedagogy, social and educational psychology, and cultural studies, the approach posits that teaching and learning should be conducted in non-hierarchical classrooms where all members are equal and working towards shared objectives. A theoretical frame is outlined and the factors that helped shape it are reflected on. A conceptual framework which covers the goals of instruction, instructional materials, classroom management, instructional methods, and assessment is also presented. It is hoped that educators will consider the concepts included in this article and, if possible, incorporate them into their teaching practices.

Keywords: Pedagogy, Educational Theory, Teaching Practice, Non-hierarchical Learning.

Introduction

For educators who teach a wide range of students from diverse backgrounds, there are two central beliefs that should inform their pedagogic approaches: (i) every student has the capacity to succeed, and (ii) every student must be provided with the opportunity to succeed and reach their full potential. In order to help students reach their full potential, it is imperative that educators create curriculums that are engaging, relevant, demanding, and fulfilling. It is also important that the goals of instruction focus on the development of cognitive ability, talent development, and the expansion and consolidation of students' personal and cultural experiences.

By providing every student with materials that engage them as individuals within a group and not just catering to the majority or the most dominant or powerful students, an inclusive education that produces socially aware and well-rounded students can be offered. However, there are a number of issues that make providing such learning experiences difficult, such as the role of assessment, exclusion, and inflexibility.

The education system in many countries is similar to a mass production system with large groups of students being taught the same subject matter in the same way at the same pace year-on-year, resulting in courses becoming static, and eventually stagnant and outdated (Holmes et al., 2001). This is an outcome that must be avoided, as every year educators encounter different students with different knowledge, experiences, beliefs, and cultures. Consequently, a diverse range of techniques need to be employed in order to maximize the learning opportunities offered to all students (Beecher & Sweeny, 2008). Without a flexible, multi-faceted approach, certain students or groups will not be engaged, leading to exclusion (Tomlinson & Imbeau, 2010).

There is a large body of research that acknowledges differences in student learning styles and focuses on matching teaching approaches with student learning styles (e.g., De Vita, 2001). Further research indicates that the mismatching of teaching and learning styles helps students stretch their abilities (Smith, 2002). Thus, by using a wide range of teaching techniques and approaches, educators can not only cater to diverse learning styles, but also challenge their students to think and learn in new ways (Keyser, 2000).

In this article, a hypothesized pedagogic approach will be introduced, outlining the influences it has drawn on and presenting a theoretical frame and conceptual framework. It is hoped that educators will reflect on some of the concepts included in this article and, if possible, incorporate them into their teaching practices.

Theoretical Frame of Non-hierarchical Learning

The theoretical frame of the development of the non-hierarchical learning approach is varied, drawing on concepts from pedagogy, social and educational psychology, cultural studies, and sociology. Figure 1 illustrates some of the key concepts that have shaped the approach and will be discussed.

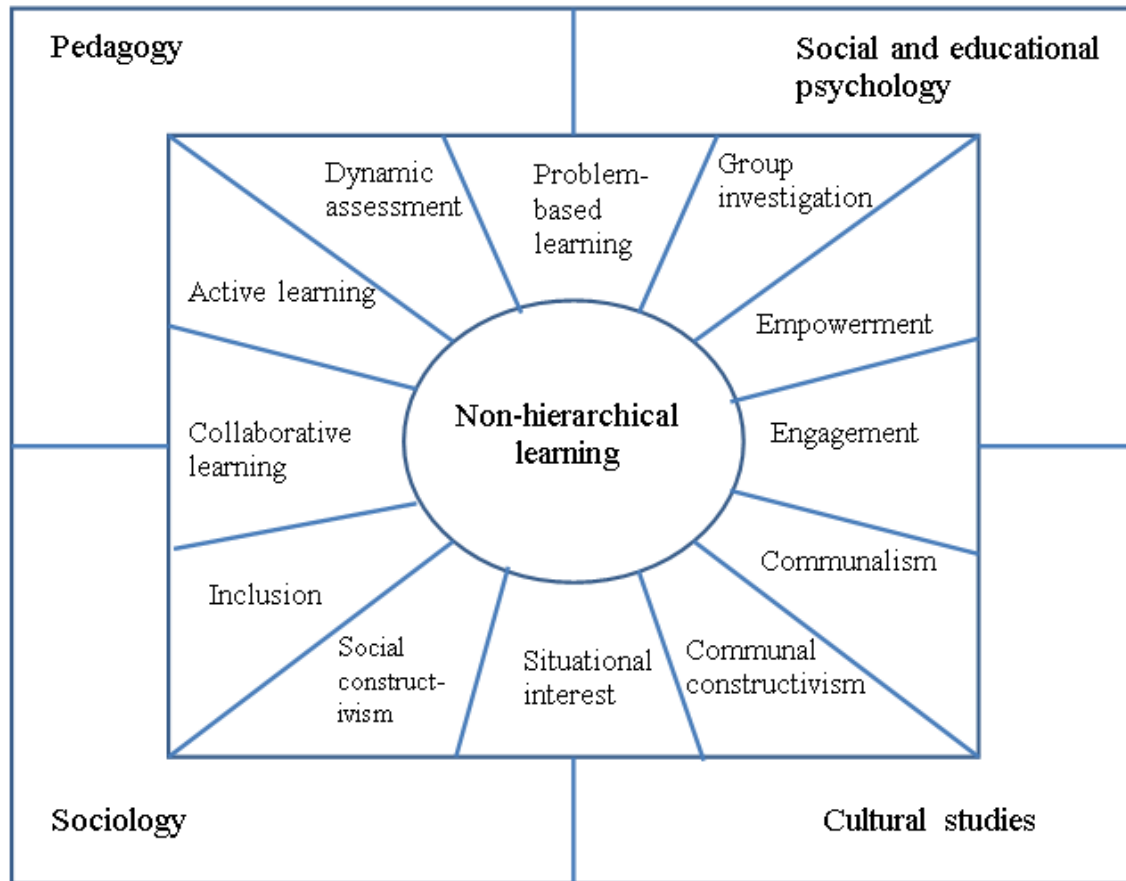


Figure 1. Theoretical frame of Non-hierarchical learning.

Active learning

Defined in its broadest sense as any instructional method that requires students to do meaningful learning activities, engages students in the learning process, and makes them think about what they are doing (Bonwell & Eison, 1991), active learning has received considerable attention over the past several years. Active learning focuses not only on the development of students' understanding of course materials, but also emphasizes the application of practical knowledge and skills by involving students in the learning process (Meyers & Jones, 1993; Auster & Wylie, 2006). Student involvement is a key factor influencing success in higher education (Astin, 1993), leading to significantly improved performance (Hake, 1998). Laws et al. (1999) found that active engagement methods improve conceptual understanding, and Redish et al. (1997) found that improved learning gains are achieved more through active engagement than just spending extra time on a given topic.

On the most basic level, active learning is introducing student activity into the traditional lecture. However, simply introducing activity into the classroom fails to acknowledge the importance that the type of activity being introduced has on influencing how much classroom material is retained, with good activities aiding the development of deeper understanding (Wiggins & McTighe, 1998). The instructional practices and classroom activities that are employed must engage students in the learning process, must be designed around important learning outcomes, and promote thoughtful engagement on the part of the student (Litman et al., 2005). The active-learning classroom provides opportunities to activate students' interest and keep them engaged for a longer period of time (Schraw et al., 2001) by employing novel questions, ambiguous statements, and unsolved problems (Litman, 2008).

Due to the perceived extent of change from traditional instruction, the implementation of active learning can polarize faculty. Common concerns include fears that active learning is only possible in smaller classes, that employing active learning is time-consuming so the mandatory content of a

course cannot be fully covered, relinquishing of teacher control leading to class discussions going off-track, and difficulty in planning and preparation (Prince, 2004).

Dynamic assessment

Predominantly based on Vygotsky's sociocultural theory of mind (1986), dynamic assessment offers the opportunity to gain new insights into assessment in the language classroom by revealing invaluable secrets about individual students and their abilities (Ukrainetz et al., 2000). Learning takes place as a result of our experiences, including tests and interactions with others. Thus, dynamic assessment recognizes that abilities and competencies are not static, but are in transactional relationships with the world and sensitive to instruction (Haywood & Lidz, 2007). While traditional non-dynamic assessment shows students' performance and current abilities, by adjusting assessments to the needs of particular learners, dynamic assessment makes it possible to evaluate both the ability of the student to learn from interaction and predict their possible future development (Murphy, 2011).

Describing a wide range of methods, dynamic assessment refers to administration procedures rather than actual assessment instruments, thus, any test can be conducted as dynamic or non-dynamic, depending on the behavior of the assessor (Lantolf & Thorne, 2006). Dynamic assessment assumes that some individuals can achieve much more cognitively if they are provided with the opportunity to work with a 'significant other' and that assessing an individual's potential is much more revealing and useful than only assessing their present knowledge (Elliott, 2003). In order to assess a learner's hidden potential, mediated assistance is provided along with instruction and feedback during the assessment process (Haywood & Lidz, 2007) and the students' progress in the ability to solve similar problems is then measured (Kirchenbaum, 1998). This focus on assessing learners' cognitive processes is the critical point which distinguishes dynamic assessment from non-dynamic assessment (Lantolf & Thorne, 2006).

While in formal non-dynamic assessment any change in the person's performance due to interaction during the assessment is considered a threat to test reliability, in dynamic assessment, that interaction allows for a more complete assessment that can determine the extent of the person's performance modifiability. In dynamic assessment, there is a focus on assessment for learning and the role of the assessor as being neutral is 'replaced by an atmosphere of teaching and helping' (Sternberg & Grigorenko, 2002, p.29) with instruction being embedded in the assessment process itself. Although appropriate interaction and mediation allows assessors the opportunity to identify and remove factors that may be hindering a student's development process as much as possible, it should be meaningful and focused solely on the purpose of learner development (Poehner, 2008).

A further key difference is that dynamic assessment allows for information crucial for effective remediation to be provided and recommendations based on developmental potential to be made (Davin, 2011, cited in Ajideh & Nourdad, 2012). While the scope of non-dynamic assessment is just limited to the past learning experience of individuals, dynamic assessment presents a broader scope of past to present experiences and future capabilities, and is therefore able to provide prescriptive information (Lantolf & Poehner, 2004). Obstacles to more effective learning and performance are identified, and ways of overcoming those obstacles on subsequent learning and performance effectiveness are developed (Haywood & Lidz, 2007). By offering individuals an opportunity to benefit from feedback that is closely related to their learning, dynamic assessment helps learners to reconsider and think through problems, thus developing cognitive ability (Grigorenko & Sternberg, 1998; Lidz, 1997).

A further central feature of dynamic assessment is the emphasis on individualized learning where a students' present performance is compared to their previous performance and inferences about improvement are made on the basis of the results, rather than comparing the performance or learning of each student with others (Lantolf & Poehner, 2007). The focus on individual instruction and intervention within the assessment procedure is a result of the perception that, within instruction and assessment, individual differences can be identified and appropriate actions taken for each learner. This improves assessment validity as it provides information about individuals' abilities that

non-dynamic measures typically do not (Lidz & Elliot, 2000) and can reveal important differences among students (Anton, 2003).

Problem-based learning

Problem-based learning (PBL) is an instructional method where problems relevant to the students' goals and objectives are introduced and used to provide the context and motivation for learning. Departing from a traditional model of learning in which students are taught identified content through direct instruction and then apply their knowledge to a well-structured situation or problem, PBL models authentic, real-world problems and encourages students to find meaningful solutions (Rhem, 1998; Torp & Sage, 2002). Typically allocating significant amounts of time for autonomous, self-directed learning on the part of the students, PBL is always active and predominantly collaborative or cooperative, giving students the chance to discover knowledge in a meaningful and applicable way. As PBL incorporates a lot of self-directed learning and is based on real-life situations, students gain self confidence in being able to resolve problems that they might face in everyday activities (Utecht, 2003).

PBL provides the opportunity for students to experience a challenging, motivating and enjoyable approach to education (Norman & Schmidt, 2000), with significant improvement in student attitudes and opinions about programs in which PBL had been implemented being found (Vernon & Blake, 1993). Other benefits include improved long-term retention of knowledge compared to traditional instruction (Norman & Schmitt, 2000), better study habits among students, the fostering of a deeper approach to learning, increased library use and class attendance, and studying for meaning rather than simple recall (Major & Palmer, 2001). It has also been indicated that faculty generally prefer the PBL approach (Albanese & Mitchell, 1993).

Group Investigation

Group Investigation (GI) is a pedagogic approach that focuses on the development of four critical components: (i) Investigation, i.e. the organization and collaborative focus of knowledge building and inquiry; (ii) Interaction, i.e. the social dimension of the learning process in which communication is essential to interpreting and constructing meaning; (iii) Interpretation, i.e. group synthesis and elaboration on the findings of each member in order to enhance understanding and clarity of ideas; and (iv) Intrinsic motivation, i.e. the students' emotional involvement which is enhanced by increasing student autonomy in classroom activities (Sharan, 1992; Tan et al., 2006).

Through the development of shared aims, responsibility for collaboration, authentic problems, pooled expertise, and dialogic discussions in GI, students can explore their ideas, clarify them for themselves and to one another, expand and modify them, and finally make them their own. In doing so, it is necessary for students to develop their interpersonal and study skills to achieve their specific learning goals, taking an active part in experiencing and understanding their study topic (Sharan & Sharan, 1992). The teacher's general role is to make the students aware of resources that may be helpful while carrying out the investigation.

Empowerment

Student empowerment is frequently equated with increased participation in the learning process with students commonly disengaging from learning when they are denied formal power in the classroom and wider educational context (Cook-Sather, 2002; Hemmings, 2001; Willis, 2003). The interactions between students and educators are determined by the roles that they assume, with the attitudes and actions of educators strongly impacting on student empowerment (Richards, 1996). If students are to be empowered, educators must redefine their roles and assumptions in relation to the incorporation of the students' experiences and cultures, employing a pedagogy that encourages all students to construct their own knowledge (Cummins, 1986). Students' personal and cultural experiences may differ significantly from educators' expectations, so the adjustment process that is undertaken by educators must be based on an acceptance of students as cultural beings (Bourdieu & Passeron, 1977).

Empowered students are confident in their own cultural identity, as well as knowledgeable of social structures and interactional patterns, and so can participate successfully in learning activities

(Cummins, 1994). Significant in achieving empowerment is the need for students to understand the tasks they face and believe that they have the capacity and intellectual tools to undertake them. Key factors in developing this positive approach and attitude are the manner in which teachers receive and extend students' efforts, and encourage them to interact with peers and with course materials, and students' self-perceptions. Self-perceptions are the impressions individuals have in relation to their own abilities and are important determiners of self-esteem (Bong & Skaalvik, 2003) and self-regulation (Harter & Whitesell, 2003). Self-perceptions also affect the way people approach interactions in different contexts (Nezlek et al., 2008) and their willingness to engage in communication (Pearson et al., 2011).

In the classroom, empowering pedagogies typically promote a dialogue between teacher and students, a conversation in which everyone feels safe to speak and all voices are respected (Hemmings, 2000; Singer & Pezone, 2001; Furman, 2002). Educators must strive to build anti-oppressive, interpersonal relationships between students and teachers as well as among students (Lynch & Baker, 2005). Students become empowered when provided with opportunities to engage in learning that is perceived to be moral (Nieto & Bode, 2008; Upadhyay, 2010).

In addition, student participation must be accompanied by critical reflections on their access to and degree of participation (Reid et al., 2008). Academic empowerment requires that students be taught both academic and practical knowledge and skills so they can succeed in today's educational, social and economic structures, while also being taught to think critically about the ways these structures affect their lives (North, 2009).

Engagement

There are many definitions of student engagement covering both social and academic aspects (Dunleavy & Milton, 2008). Social engagement refers to positive interaction with peers and teachers, feeling a sense of belonging, having a positive social self-perception, and being involved in extracurricular and social activities within the school (Archambault et al., 2009). Academic engagement refers to active participation in academic tasks, cognitive investment in those tasks (Willms et al., 2009), and expressions of interest in learning (Park et al., 2012).

The active engagement of students in their learning has been linked to higher educational achievement, positive attitudes to learning, and increased student self-efficacy (Skinner et al., 2009). Furthermore, students who are highly engaged at school are more likely to enter higher education than those that are not (Park et al., 2012). However, engagement levels often decrease as students move through the educational system (Fredricks, et al., 2004). If a learner is interested in a particular topic, they will engage more extensively with it, which could be of educational significance (Hidi, 2006). Thus, making courses relevant to students is imperative.

Communalism

Communalism has been identified as one of nine dimensions in the socialization experiences of low-income African American children (Boykin, 1986), fundamentally focusing on sharing, social bonds, interdependence, an awareness of interconnectedness, and a sense of mutual responsibility. Despite the very specific context to which communalism has been applied to date, the non-hierarchical learning approach posits that the key concepts can be applied to the socialization experiences of all students.

Communalism can be divided into four sub-dimensions: (i) Social orientation, i.e. prioritizing interactions and relationships with people over those with objects or things and holding each social interaction as a valuable experience; (ii) Group duty, i.e. believing that the needs of the group are more important than the needs of the individual; (iii) Identity, i.e. having a sense of belonging and group membership being a key factor in one's self-identity; and (iv) Sharing, i.e. believing exchange and mutual support are essential contributions for the success of a group and that knowledge and expertise should be disseminated rather than kept for individual benefit (Boykin, 1986). Thus, applying the concepts of communalism in an educational context promotes the development of factors essential to the idea of group members working together to create a positive outcome and learning experience that can be rightfully shared and used to the advantage of all.

Communal constructivism

Communal constructivism is an approach in which 'students not only construct their own knowledge as a result of interacting with their environment, but are also actively engaged in the process of constructing knowledge ... that will benefit other students and teachers' (Leask & Younie, 2001, p.117). Consequently, students do not simply pass through a course leaving it untouched and unchanged, but they help develop and create a positive effect on the course, and ideally their educational institutes and even the discipline.

The communal constructivist approach was developed following the identification that the majority of student learning that occurs during a course does not become integrated into the materials for the following year. This can result in courses becoming inflexible and outdated (Holmes et al., 2001). It is posited that if the students' learning processes and work could be absorbed into courses, then knowledge would continue to develop and grow, allowing courses to become dynamic and adaptive.

However, for this to be achieved, students must be willing to be knowledge creators, not just passive consumers. Thus, it is necessary for educators to use a range of techniques that encourage students to view themselves as integral parts of the communal process of constructing knowledge. Learners must be empowered and encouraged to engage in meaningful interactions which allow them to contribute to a positive, authentic outcome. It is imperative that learners are listened to, made to feel that they are important, useful, valued, and relevant as this will aid their growth into responsible students and people.

Possible classroom techniques that can be employed include group work and project-based learning, a portfolio assessment process that can be made available to students' peers and learners that follow them, developing a group portfolio that allows current students to reflect on their year-long learning process and also future students to see the progress of knowledge acquisition, making material available to students at least a week in advance of classes to avoid extensive lecturing, allowing students to engage in project work and discussion during lecture time, and encouraging peer tutoring and mentoring.

Situational interest

Research has indicated that students' attention spans during lectures is roughly fifteen minutes (Wankat, 2002), after which the number of students paying attention begins to drop dramatically, resulting in less retention of lecture material (Hartley & Davies, 1978, cited in Prince, 2004). One way of countering this is to develop situational interest, which has been defined as an immediate affective response to certain conditions and/or stimuli in the learning environment that focuses students' attention on the task (Hidi & Renninger, 2006).

Classrooms that promote student autonomy and choice increase intrinsic motivation and situational interest (Schraw et al., 2001). Harackiewicz et al. (2000) found that perceived meaningfulness of the task was an important factor in maintaining situational interest. Furthermore, working in small groups also increases students' abilities to maintain situational interest as it can increase the feeling of communal belonging and autonomy (Mitchell, 1993).

Social Constructivism

Constructivism predominantly focuses on lived experience and interpretations of meaning (Schwandt, 1994) with learning being an active process of constructing knowledge to make sense of the world (Adams, 2003). There are many forms of constructivism, which differ on a range of factors including the importance of social interaction as opposed to the individual learner in the construction of knowledge (Phillips, 1995). In social constructivism, communication is compared to processes of building, and active engagement in the processes of meaning-making and understanding the varied nature of knowledge is essential (Spivey, 1997). The learner and educator engage to co-construct meaning with their decisions 'scaffolding' each other (Silcock, 2003).

As such, construction of knowledge is the product of social interaction, interpretation, and understanding (Vyotsky, 1986) and cannot be separated from the social environment in which it is

formed (Woolfolk, 1993). Furthermore, due to the role of language and other forms of communication, knowledge constructs are formed first on an inter-psychological level (between people) before becoming internalized and existing intra-psychologically (Daniels, 2001).

Mainstream constructivism can over simplify group dynamics and assume that similarities among students override social and cultural differences. Although individual differences may be considered in mainstream constructivism, the tendency is to propose general principles that are applicable to all students. However, this approach fails to acknowledge that a given set of learning opportunities may benefit some students while working to the detriment of others. A more diverse constructivist perspective, such as social constructivism, states that general principles must be critically assessed and refined so that their application to specific contexts and groups of students can be understood. Thus, the fluid nature of learning requires teachers to adopt the view that each learner will create knowledge differently and that these differences stem from the various ways that individuals acquire, select, interpret and organize information (Adams, 2006).

Social constructivism addresses the way in which learning can be restructured to allow students to acquire academic knowledge by building on the foundation of personal experience, or conversely how students may gain insights into their own lives through the application of academic knowledge. As social constructivism states that meaning is created through social and collaborative activities, in a classroom the teacher would facilitate rather than explicitly teach or lecture.

Inclusion

In educational contexts, inclusion can be defined as providing all students with the opportunity to access the social and academic life of the classroom (Katz et al., 2012). Social inclusion provides students with the opportunity to interact with peers (Koster et al., 2009) and develop a sense of belonging and acceptance within the learning community (Specht & Young, 2010). Academic inclusion is defined as full and equal participation in academic activities and curriculums (Katz, 2012).

Directly related to resiliency and mental health (Wotherspoon, 2002), inclusion is a major factor in students' academic and social development (Zins & Elias, 2006). Furthermore, it increases academic motivation, aspirations, and achievement (Brock et al., 2008). Consequently, it is widely accepted as one of the key goals in educational systems around the world (Curcic, 2009).

Students come to school to learn and educators must set high standards for all students, support students to achieve them, and create learning opportunities that allow students equal opportunities to succeed. If students are excluded, they will become disengaged (Bru, 2009). The inclusion of students from different backgrounds does not negatively impact the learning of other students (Wagner, 2008), but can actually develop stronger communication, leadership skills (Bunch & Valeo, 2004), and more positive attitudes toward diversity (Cole & Waldron, 2002).

In order to achieve inclusion in the classroom it is essential that compassionate learning communities are built, approaches to instruction are developed so that students have access to differentiated learning opportunities, and student autonomy is emphasized (Katz, 2012). It is also essential that educators create diverse curriculums and employ instructional activities that allow for multiple meanings of representation, expression and engagement (King-Sears, 2009).

Inclusive education questions assumptions about schools, teachers, students, teaching and learning (Moss, 2003), challenges views on the interconnectedness between individuals, education and society (Crebbin, 2004), and strives to achieve a way of life in schools where people are valued and treated with respect for their varied knowledge and experiences (Carrington & Robinson, 2004).

Collaborative and cooperative learning

Collaborative learning can refer to any instructional method in which students work together in small groups toward a common goal (Terenzini et al., 2001) and where emphasis is placed on student interactions rather than on learning as a solitary activity. As such, collaborative learning can be viewed as an umbrella term for all group-based instructional methods, including cooperative learning, which adds the tenet that students are assessed individually while pursuing common goals (Feden &

Vogel, 2003). Further determiners of cooperative learning are individual accountability, mutual interdependence, face-to-face interaction, appropriate practice of interpersonal skills, and regular self-assessment of team functioning (Johnson et al., 1998; Johnson et al., 2000).

Through collaborative and cooperative learning, students can gain confidence in other people and their work and develop their own self-direction and responsibility for learning (Sharan & Sharan, 1994). Social skills tend to increase more within cooperative rather than competitive or individual situations (Johnson & Johnson, 1994). Furthermore, students report increased team skills as a result of cooperative learning (Panitz, 1999).

Conceptual Framework of Non-hierarchical learning

Traditional education systems have strict hierarchies that are stringently adhered to. In many countries, classroom interactions are overwhelmingly controlled by the teacher and the textbook (Dashwood, 2005), placing teachers as primary knowers (Berry, 1981) and students in a submissive role. This situation has been used as a tool by teachers to 'impose order' (Arum & Ford, 2012, p.58) and has created passivity not only in the learners, but within the whole system.

In general terms, the view that a hierarchical organization is the only practical form of organization is based on the assumption that each member of a group is restricted to one specialized function. However, if the one person/one task principle is rejected, the need for a rigid hierarchy disappears, allowing more flexible approaches and relationships to be created.

The study of non-hierarchical organizations in the business context indicates that although members may work independently at times, the work of each individual supports and facilitates the work of the other members within that group, with everyone working towards a mutual goal. The non-hierarchical learning approach posits that this can also be true within an educational context where each student, or small group of students, works on their own task and then reports back to the class, for example in the form of a presentation, which can enhance the learning experiences of others within that group.

This process builds on the theory of network organizations where work conducted by one member is recognized as a positive development by another member, who may then be able to use it and expand on it in their own work. This in turn may help others to make further developments, leading to a cumulative development which produces an outcome much greater than possible if a problem or task was tackled only by isolated individuals (see Figure 2).

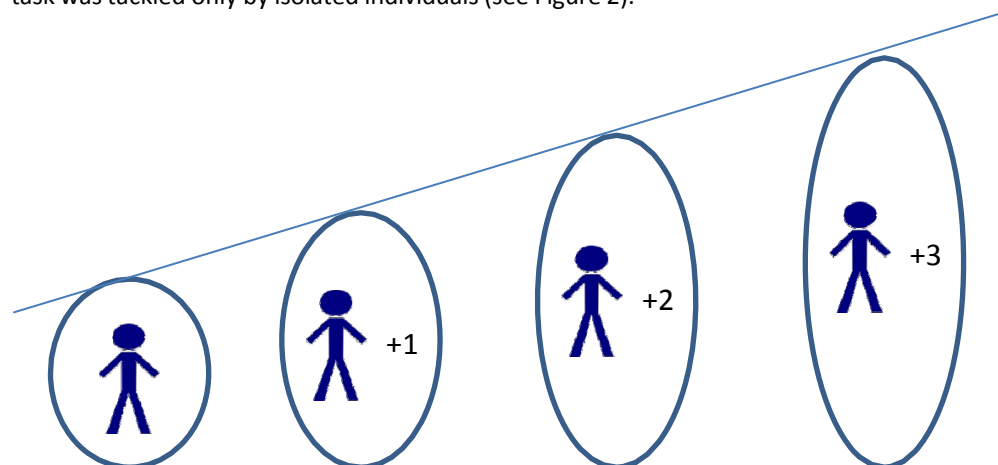


Figure 2. – Development of knowledge in network organizations

Table 1 identifies five elements in the conceptual framework of non-hierarchical learning. They are: Goals of instruction, Instructional materials, Classroom management, Instructional methods, and Assessment. These elements will be discussed below.

Non-hierarchical learning	
Goals of instruction	Develop learning and sharing processes with an emphasis on: (i) empowerment (ii) student ownership (iii) student autonomy and choice
Instructional materials	Emphasis on: (i) using authentic materials that are well-balanced and present a diverse range of cultures (ii) using materials as entry points to paperless discussions and activities (iii) activities that are easily relatable to important learning outcomes (iv) activities that encourage communication, the development of critical skills, reflective learning and an awareness of social responsibility
Classroom management	The role of the educator should be perceived as: (i) co-developer of a productive, safe and compassionate learning environment (ii) contributor to the co-construction of knowledge and progress towards shared goals
Instructional methods	Educators should focus on methods that allow for: (i) minimal explicit instruction (ii) educator to be seen as an equal team member
Assessment	Student assessment is measured: (i) individually (ii) dynamically (iii) as interrelated with learning and teaching

Table 1. Conceptual Framework of Non-hierarchical Learning

Goals of instruction

The main goal of instruction in non-hierarchical learning is to develop students' learning and sharing processes so that they become empowered and learn to use the skills they gain in class in authentic contexts. In order to do this, it is essential for educators to foster effective group and team work skills, and encourage students to critically reflect on their own learning (Cotterall, 2000).

Further to the development of student empowerment, non-hierarchical learning proposes that overall achievement can be improved if student ownership is explicitly stated as one of the overarching goals of instruction. Doing this indicates that a learner's education must be personally meaningful to them, drawing on their goals, interests and experiences.

The third key goal of non-hierarchical learning is to develop students' abilities to work autonomously. Encouraging students to work autonomously aids the development of their mental processes, which in turn improve and consolidate authentic communicative skills (Alan & Stroller, 2005). Supporting students' autonomy is widely acknowledged as one of the key factors in humanistic teaching (Deci et al., 1996) and it promotes students' positive perceptions of their education (Grolnick et al., 1991). The enhancing of student autonomy provides learners with the opportunity to achieve a more complete sense of ownership of their own learning and engage in critical thinking processes (Belgar & Hunt, 2002). This allows students to become less dependent on their educators (Fewell, 2010) and positively influences their cognitive behavior (Zin & Eng, 2014).

Instructional materials

Non-hierarchical learning posits that educators can improve and enhance the education service they provide by using materials that present diverse cultures in an authentic and equal manner. No culture or group of people should be portrayed as better than another. The use of materials that accurately depict diverse groups and the experiences of those groups' members can result in increased motivation and engagement, greater appreciation and understanding of different cultures, and more acknowledgement of the value of students' own life experiences as a topic for knowledge development (Spears-Bunton, 1990).

Despite a traditional focus on textbooks in courses (Dashwood, 2005) and some educators following course textbooks without questioning them (Gorsuch, 2000; Miyahara, 2012), their practical authenticity has been questioned (McGroarty & Taguchi, 2005). Consequently, non-hierarchical learning proposes a departure from focusing on paper-based materials and an over-reliance on textbooks. Instructional materials should be used as entry points to paperless discussions and activities. One possible way of doing this is to increase the amount of problem-based learning and task-based activities that are employed in the classroom (Bury & Sellick, 2015). However, it is imperative that these activities are student-led.

In the non-hierarchical learning approach, educators are encouraged to utilize activities which develop communication skills as well as general cognitive strategies by making the target material relevant to the students and ensuring it has authentic value to them and their learning goals. This allows educational activities to become increasingly rewarding, thus providing students with the situational rationales for staying focused and engaging in learning. By making the links between activities and learning outcomes clear, it is possible to enhance the perceived meaningfulness that students attach to their education.

Tasks that require learners to employ a variety of communicative methods, such as role-play and concept mapping, provide opportunities for learners to consolidate their own understanding through discussions with other group members (Torrance & Pryor, 1998). Thus, open-ended tasks that require students to think critically, solve complex problems, and apply their knowledge in and to their own world are to be encouraged (Shepard, 2000). **Authentic learning situations** allow learners to use academic knowledge and skills in real-world situations, developing a stronger connection and knowledge transfer between home and school (Bereiter, 2002). Activities classified by Ribé and Vidal (1993) as second and third generation tasks are good examples of possible classroom activities that can be employed as they aim to develop awareness and interpersonal skills in real-world contexts. Furthermore, students' reflective capabilities and awareness of social responsibilities can be developed by educators incorporating more liberal themes into courses (Inui et al., 2006) and moving away from just test teaching.

Classroom management

For success in the non-hierarchical learning approach to be attained, the first step is to create a safe and compassionate environment that supports open, honest and lively class discussion. It is essential that all class members feel comfortable sharing their views and experiences and are able to interact and participate fully in classroom activities. It is also critical that individuals are focused on achieving joint goals and not on improving their own status or power within a particular system. Thus, a shared learning process which depends on and develops the complementary skills of its members must be established. This can be achieved in part by educators assuming the role of listener and observer more frequently and emphasizing the need for students to be given time to talk.

Changes in classroom management can only be achieved if the way educators perceive themselves is challenged (Rice & Wilson, 1999). In non-hierarchical learning both the learner and educator are acknowledged as experts and co-constructors of knowledge instead of teachers being identified as the most knowledgeable and in charge. Thus, there must be an emphasis on the transference of power to the learner (Brooks & Brooks, 1993) and control should be shared by educators and learners (Watkins, 2001) with a focus on interdependence and mutual responsibility. Students must be encouraged to share information and contribute to the development of their shared knowledge and this exchange can lead to improved motivation and social skills (Brown & Duguid, 2001).

Instructional methods

The transmission of information from teacher-students is not the only way of making knowledge accessible. If it is accepted that knowledge is co-constructed through common discourse (van Leeuwen, 2008), then student-student communication is of equal importance, especially where verbal communication is 'the main means of transmitting information' (Edwards & Westgate, 1994, p.16), and books and other resources are viewed as supplementary. Explicit instruction and explanations should be minimal and kept outside of the classroom where possible, allowing the opportunity to discuss ideas and create joint meaning through interaction in the classroom.

In social constructivism, educators position themselves as organizers and potential sources of information (Crowther, 1997), but in non-hierarchical learning, the role of the educator is not to work as a facilitator in order to provide students with opportunities and incentives to construct knowledge and understanding, but to work with students as a member of the team in order to achieve the group goals. The co-construction of knowledge should not be restricted to traditional educator-learner or learner-learner interactions (Weeden & Winter, 1999), but the importance of all participants being part of a team must be acknowledged. The 'flattening' of power relations that is proposed in non-hierarchical learning situates the teacher as an equal team member.

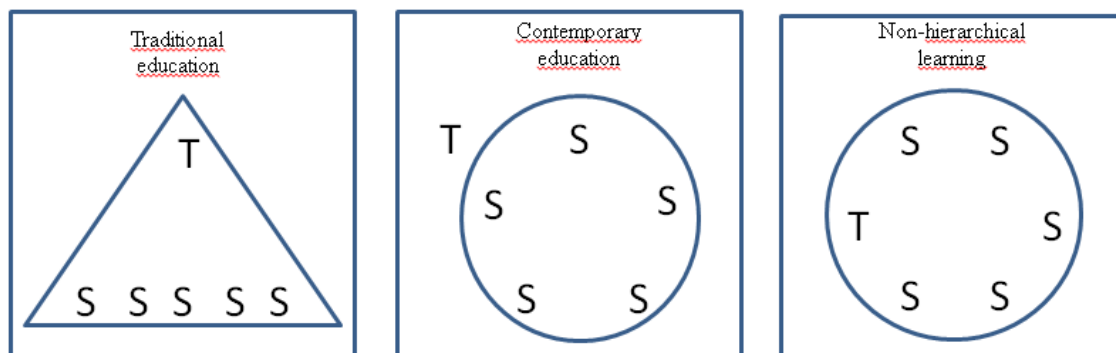


Figure 3 – Visual representations of traditional education, contemporary education, and non-hierarchical learning

Figure 3 illustrates the different approaches between traditional education, contemporary education, and non-hierarchical learning. Instead of the teacher being in control as in traditional education, or being perceived as an interlocutor or facilitator outside of the group, power must be transferred so that each person is an equal contributor to the learning process within the group.

Assessment

In traditional education contexts, teachers are perceived to be the focus for success (Tomlinson, 2001). This reinforces the role of learners as passive recipients, dependent on those around them (Willinsky, 2005). In non-hierarchical learning, it is suggested that students should be given equal responsibility for their learning outcomes. Furthermore, it is posited that increases in achievement should be measured through personal progress, where individual achievement is not judged against other students, but in relation to past performances. This approach could allow students to develop a desire for deeper understanding and gain satisfaction from perseverance and success in difficult tasks (MacGilchrist, 2003).

In non-hierarchical learning, assessment should be conducted dynamically with assessors providing mediation to reduce possible factors that prevent a student from achieving their goals. Aiding a student in this context can greatly enhance their confidence in relation to their own abilities and develop more positive self-perceptions.

Traditionally, assessment, learning, and teaching have been seen as three related but separate aspects of education (Graue, 1993). The non-hierarchical learning approach posits that assessment should be viewed as a further opportunity for learning, both for students and educators. It is essential that effective and targeted feedback is provided so that the students can learn from their assessment

experiences and improve in the future as this will encourage them to view the assessment process as cognitively beneficial.

Potential issues

When introducing and outlining pedagogic approaches, the difference between what is desirable and what is actually possible in a certain context is often not given enough prominence. Analyzing issues and suggesting solutions is quite different from actually applying them in a practical situation (Giroux, 1988), with the greater challenge not being proposing a framework, but in bringing about changes in schools that will benefit all students.

As every pedagogic approach consists of more than one element, it affects more than one learning outcome (Norman & Schmitt, 2000). Thus, when assessing whether a method is successful, a wide range of outcomes must be considered, ranging from the development of factual knowledge and relevant skills to student attitudes and class attendance. However, evidence on how a teaching approach impacts on all of these learning outcomes is often not available or it can include mixed results. For example, when implementing a non-hierarchical approach, factors such as problem-solving and communication may improve while performance on standardized exams may decline. Therefore, deciding whether an approach has been successful is a matter of interpretation and it is not valid to claim that faculty who adopt a specific method will see similar results in their own classrooms.

Autonomy in the classroom develops via interaction with others (Smith & Ushioda, 2009) and learner and educator autonomy should be considered as mutually interdependent (Smith, 2002; Usuki, 2007). For educators that have only experienced hierarchical learning contexts, it can be very difficult to promote the conditions required for the development of student autonomy (Graves & Vye, 2012; Aoki, 1999). Furthermore, educators that do not practice autonomy in their own contexts can have issues in assisting their learners in achieving improved levels of autonomy (Elliott & Dweck, 2005).

As with all new approaches, the introduction of the methods into the classroom should be gradual due to the possibility of students rejecting an approach inconsistent with their beliefs about learning, the classroom, and teacher/student roles (Harris, 2010). At first, teaching needs to be teacher-led, but as courses progress, students should be allowed and encouraged to take more responsibility and have more control over education and learning (Dornyei, 2001). However, teachers will need to provide some guidance (Widdowson, 2003), acting as a resource or guide for learners' own self-directed efforts (Benson, 2001), but this should naturally decrease as students' empowerment, ownership, and autonomy increase.

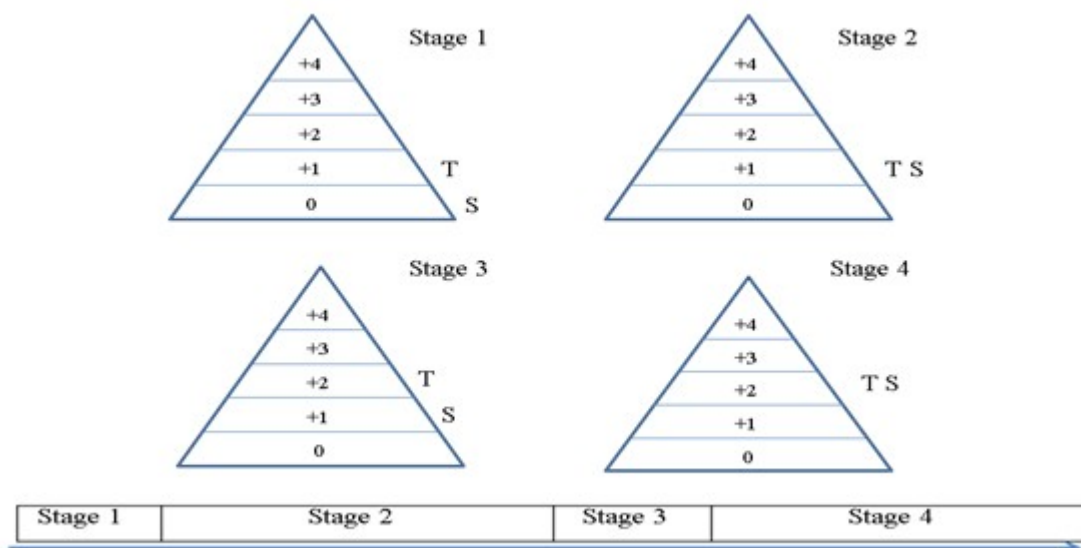


Figure 4 – Example of how non-hierarchical learning could be introduced into the classroom.

Figure 4 illustrates one possible way of introducing non-hierarchical learning into the classroom. In Stages 1 and 3, the teacher either leads the class or acts as a facilitator for student learning. In Stages 2 and 4, the teacher becomes an equal group member and co-contributor to knowledge creation. As courses progress and students become more comfortable with the non-hierarchical learning approach, Stages 2 and 4 can be increased in length.

While it is easy to agree with the theoretical grounding that supports the transference of power suggested in non-hierarchical learning, educators' approaches to classroom management and interaction with students must be adjusted on the basis of differences in students' cultures (Delpit, 1988). Students' opportunities to learn improve when teachers conduct lessons in a culturally responsive manner, consistent with community values and norms for interaction (Au & Kawakami, 1994). Thus, the length of the stages illustrated in Figure 4 must be seen as flexible. Furthermore, it is essential that the learners perceive the educator's role as equal team member as genuine or they could become less willing to share their learning strategies and thought processes, reverting to anticipating and meeting the teacher's need for a correct answer.

From the perspective of critical theory, the non-hierarchical approach can be faulted for focusing more on the roles of educators and students in the classroom than on issues of power in the larger society that constrain the actions of both. As such, it can be claimed that the external contexts within which teachers and students must work and other external pressures and circumstances are not fully addressed.

Conclusion

In an era of intensified competition among colleges and universities, faculty members and educational institutes are recognizing that competitive advantage can be gained through excellence in teaching (Bruce, 2001; Byrne, 2000). Furthermore, student expectations regarding their learning are rising (Page & Mukherjee, 2000) as they seek more engaging class environments (Schneider, 2001) in which they can both obtain knowledge and learn how that knowledge can be applied in their future careers (Merritt, 2001).

In order to address this, educators need to be able to draw on an expansive portfolio of pedagogic strategies and concepts. In this way, the possibility of not only helping students reach their potential, but also of enabling them to be empowered through their educational experiences and to use the skills they learn as practical tools within society is created. If this is achieved, recognized, and acknowledged, definitions of education and learning can be transformed and expanded not only in isolated courses, but possibly over whole institutes.

Although teachers cannot learn on behalf of students or force them to learn, they can do certain things to help and the behaviors that educators exhibit can affect students' feelings towards, and engagement in, learning. Some of the evidence for non-hierarchical learning is compelling and should stimulate faculty to think about teaching and learning in non-traditional ways. Traditional power relationships in education tend to be coercive, consolidating the subordinate, passive status of students. There can also be the assumption that sharing power equally within the classroom would decrease the status of the dominant or individual group. In non-hierarchical relations of power, no group or individual is put above another, and power is neither gained nor diminished in terms of members as isolated units, instead power is generated through interactions among group members.

While there is no one pedagogic approach that can provide the answer to all educational issues and teaching should not be simplified down to formulaic methods, discussions about learning allow educators to analyze their own approaches and concentrate on what should be the main focus of the educational process: helping learners reach their full potential.

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