

# The Test of Accessibility of Higher Education in Israel: Instructors' Attitudes toward High-Functioning Autistic Spectrum Students

Nitza Davidovitch<sup>1</sup>, Alona Ponomaryova<sup>2</sup>, Hana Gendel Guterman<sup>3</sup> & Yair Shapira<sup>4</sup>

<sup>1</sup> Head of Academic Quality and Assessment, Head of Teacher Training Program, Ariel University, Israel

<sup>2</sup> Department of Education, Ariel University, Israel

<sup>3</sup> Department of Economics and Business Administration, Ariel University, Israel

<sup>4</sup> Department of Health Systems Administration, Ariel University, Israel

Correspondence: Nitza Davidovitch, Ariel University, Ariel, Israel. E-mail: d.nitza@ariel.ac.il

Received: March 13, 2019

Accepted: April 15, 2019

Online Published: April 17, 2019

doi:10.5430/ijhe.v8n2p49

URL: <https://doi.org/10.5430/ijhe.v8n2p49>

## Abstract

This study deals with a case study of a program that integrates high-functioning autistic spectrum students in Israeli academia. The case study focuses on the attitudes of students and faculty towards high-functioning autistic spectrum (HFA) students, aiming to examine their contribution to the integration of HFA students in academia, with regard to the academic-social climate and their perceived self-efficacy. The case study may serve academic institutions as a model for the adjustment and integration of autistic spectrum students, with the inclusion of academic and administrative elements. The study is based on mixed methods methodology, utilizing both qualitative and quantitative research methods. Five hundred twenty six students, 103 faculty, as well as 30 students with ASD (autism spectrum disorder) and 27 mentoring students participating in the program, were asked to complete a quantitative research questionnaire. The research findings show that the integration of HFA students in academic studies is potentially possible, predicated on awareness among faculty and students as to the nature of the disability. Variables with high significance for the program's success were detected, involving teaching tools, institutional support, and a tolerant academic-social climate. The research findings indicate that with regard to nearly all the variables the faculty have the highest awareness of and sensitivity to integrating HFA students in academic studies. The literature review, as well as the findings of the current study, support the integration of people with HFA in various institutions and confirm the conditions for this success: institutional and social motivation together with a tolerant atmosphere.

**Keywords:** Higher education, autism, academic-social climate, tolerance, teaching method

## 1. Introduction

In recent years Israel has been undergoing a process of change in its attitude to people on the autistic spectrum. The change is mostly evident in the growing recognition of their basic right to live a full and productive life, a life of self-realization, not on society's margins but rather integrated in all areas of human achievement, including the right to education and to maximal communal integration in society (Ward & Stewart, 2009). A distinct manifestation of this trend is the **Equal Rights for Persons with Disabilities Law**, 1998 (Israeli Knesset, 1998), which defines the rights of people with disabilities and the obligation of Israeli society to maintain these rights.

Similar processes have occurred in recent decades in most developed countries around the world. This is evident in the United Nations convention on the rights of persons with disabilities, signed in 2006 (United Nations, 2007). Israel ratified the convention in September 2012 and, in fact, even earlier included its principles in the Equal Rights Law (Ministry of Education, Special Education Division, n.d.).

It is extremely significant to provide access to Israel's system of higher education. Creating an accessible campus intended for students, teachers, workers, and visitors, is dependent not only on the ability to enter, move, and find one's way around it, but rather on full and equitable access to all the services it offers (Werner, 2015). The foundation of the current study is a case study of a program at Ariel University, which provides a response to the needs of student groups on the autistic spectrum with the aim of enabling them to reach their full potential. The program began in 2008 with two students and as of 2018 it includes 50 students. The purpose of the program is to

afford an equal opportunity to acquire higher education and to provide access to studies and social integration, while imparting the necessary tools and skills for independent coping (Ariel University, 2014). The project can serve as a model for academic institutions in Israel's higher education system with regard to the adjustment and integration of students on the autistic spectrum.

The study examines the support provided by the institution, both on the organizational level and in the teaching performed by the faculty, as well as the academic-social integration of students on the autistic spectrum – all factors that might facilitate their success. The study also examines faculty and students' perceptions of the relative effectiveness of an atmosphere of tolerance and advanced teaching methods. According to the literature review (Ponomareva, Davidovitch, & Shapira, 2016), the initial premise of the study is that academic institutions influence the academic-social climate and the perceptions of faculty and students. The more intensive and positive the influence of the institution, the greater the possibility of creating an atmosphere of tolerance. At the same time, we are of the opinion that the institution has the greatest impact on the faculty's desire to use advanced methods, as an informed method that facilitates the integration of students on the autistic spectrum studying at the university.

The study included additional variables that may also affect the atmosphere of tolerance and advanced teaching methods at the university, such as teacher involvement, "feelings" towards HFA (High-functioning autism) students, general instruction methods, knowledge about HFA, and academic-social integration.

We focused on the attitudes of **students, faculty members, mentors, and mentored students (on the autistic spectrum)** towards the integration of students on the autistic spectrum in academic studies within Israel's system of higher education. Their attitudes were examined based on:

- A. **Moos' theory** (Davidovitch, 2009): **Perception of the academic-social climate** as a key to students' success in general.
- B. **Triandis and Gelfand's** (1998) **theory: Attitudes** attributed to people who find various functions challenging.
- C. **Hativa, Many, and Dayagi's** (2010) **theory: Characteristics of good teaching** and the teacher's professional development

The development of programs for integration in Israeli academic institutions derives from the desire for equal rights, providing all students with equal opportunity to acquire an education according to his or her abilities. The motivation appears to be driven by the law. At the same time, the question is whether Israel's academic system knows how to integrate HFA students, on the level of the institution, the faculty, and the student body as a whole. The study is unique for its attempt to detect the personal (familiarity with HFA), academic (teaching), and institutional (support and climate) factors affecting the attitudes of students and faculty towards HFA students.

This leads to other **research questions**: Will the tolerant atmosphere be positive when the academic institution (the organization) is involved and supportive? Will the tolerant atmosphere be more positive when the academic-social climate in class is better? Do teachers make more use of advanced teaching methods when the academic institution (the organization) is involved and supportive? Will the tolerant atmosphere in class be more positive and have more of an effect on HFA students when teachers are more involved in class and when the academic-social integration of the entire student body is higher? How do more positive feelings towards students with HFA and familiarity with HFA affect the tolerant atmosphere? In addition, the study might have practical implications for policy makers regarding higher education, for the faculty and teaching methods, and for students and their attitude to others and to those different from them. For instance, on the level of policy makers regarding higher education – academic excellence and equal opportunities for everyone – are these compatible? On the level of the faculty – should they adapt academic teaching to the needs of special individuals and to what extent? On the level of teachers and of students – is it desirable to help form a tolerant climate in class in order to help students on the autistic spectrum without harming the other students? Also, how can an atmosphere of personal capability and support be formed in order to help students on the autistic spectrum?

## 2. Theoretical Background

Autism is a neurological developmental disorder that appears at age 18-36 months (Narasimharao, Pradhan, & Navaneetham, 2017). The disorder is characterized by severe and pervasive damage to three areas of developmental functioning: social, communication, and behavioral.

The autistic spectrum is very wide – from severe to almost normal. In this study, we refer to high functioning autistic students who study at academic institutions. These students are characterized, on one hand, by difficulties and limitations in areas of interpersonal communication, interaction, social adjustment, and use of imagination, while on

the other hand displaying normal development of their cognitive ability and adaptive behavior (aside from social interactions), interest, and inquisitiveness. Researchers are continuing their attempts to reach more accurate standards for diagnosing autism and to improve their reliability compared to previous versions.

The levels of severity (grades) for the HFA deficiency are (Narasimharao et al, 2017):

- A. **Grade 3:** Significant deficits in verbal and non-verbal social communication skills that result in considerable harm to functioning.
- B. **Grade 2:** Marked deficits in use of verbal and non-verbal social communication skills.
- C. **Grade 1:** If no support is provided, social-communication difficulties will emerge that lead to marked deficiencies.

### *2.1 Personal Social Patterns and Integration of High Functioning Students on the Autistic Spectrum*

Studies on high functioning students with autism show that despite their adequate cognitive skills and their ability to specialize in varied professional areas, in practice only few study in academia. Among the barriers they themselves mention are: the difficulty to cope with the social aspects of studies and lack of confidence (Knotta & Taylor, 2014; Hendrickx, 2009). They often prefer to choose a profession that does not let them develop independence in other areas of life (Howlin, 2004). The scarcity of studies and data on high functioning students with autism makes it hard to predict how they will function and become integrated in the community and on the job. Many problems also stem from students' difficulty to cope with unexpected changes in the study routine and from increased sensitivity to sensory stimuli, namely, adjusting to a new setting and learning new tasks takes more time for HFA students than for other students. All the other difficulties become more crucial in the case of an insufficiently tolerant environment and in the absence of adequate teaching tools.

HFA students often have difficulty coping with the challenges they encounter in their studies and in their life as independent adults (Hendrickx, 2009). In the absence of a supportive setting in adulthood, professional guidance based on focused and relevant knowledge might constitute a supportive and guiding element in this significant stage of life.

The integration of HFA students in higher education is extremely significant, both for the individual and for society. With regard to the individual, integration may: diminish situations of loneliness and a lack of social ties; enable the experiencing and improvement of social skills and independence skills; provide a normative response to leisure time; reduce general feelings of exclusion and estrangement and allow one to receive knowledge and to obtain an academic degree.

With regard to processes of socialization, many of the integration difficulties experienced by autistic students in society (social, academic, and occupational integration) stem from prejudice and misconceptions by society. The more students are exposed to HFA students, they develop more tolerant social attitudes and have a positive effect on the public discourse as students and subsequently as adult citizens (Davidovitch, Ponomareva & Shapiro., 2017).

### *2.2 Theories on Integration within Higher Education*

**Integration** is a psychological concept that speaks of creating a real connection between a person with needs and a "mainstream" person. In this study we shall refer to integration that involves increasing the inclusion and involvement of students on the autistic spectrum in the social and educational life at the university. In the field of education, integration is normally a concept that includes integration, diversity, inclusion, and participation.

Integration means acceptance of the target culture by a minority group, while also maintaining one's culture of origin (Berry, 1991). It is claimed that academic and social integration are a necessary condition for persistence and affect the quality of academic achievements (Cabrera, Castaneda, Nora, & Hengstler, 1992).

**Diversity** refers to the social and cultural composition of students at a school. In contrast to integration, which requires a desire of the minority and acceptance by the majority, diversity depends on institutional preferences and institutional policies that support the implications of including students with diverse backgrounds. Advocates of diversity argue for the positive impact of diversity on the learning process, and therefore provide support, for example, a policy of affirmative action towards minorities (Gurtin, Dey, Hurtado & Gurtin, 2002). Diversity is measured by the rate of those admitted for studies and who consequently enroll for studies.

Similarly, **inclusion** too reflects institutional policy. This concept was introduced to the discourse with the expansion of global systems of higher education and their transformation from institutions of the few to those of many. Namely, giving groups that were not included in the system access to it (Ross, 2003).

Inclusion in higher education is mainly measured using the following concepts: enrollment, adjustment, persistence, attrition, earning a degree, aspiration, and dropout. Enrollment is an outcome of the first stage of the integration process. The successful enrollment of minorities in higher education stems from social trends and good academic performance in the previous educational stage. After enrollment there is a period of adjustment, measured on academic, social, and personal-emotional dimensions (Baker & Siryk, 1984). In this respect there are different levels of integration: the highest level is that of students in a full program who graduate in the required number of years for the program. A lower level is that of those who graduate but take a longer period of time than required to do so and under a reduced burden than that of the full program. The lowest levels reflect a pattern of attrition: such as those who transfer between departments or between institutions and those who draw out their studies over a long period, as well as those who drop out before graduating (Tinto, 1975). The final outcome of the integration process is measured by how the student leaves his or her studies. A student who graduates and is eligible for a degree represents successful integration, while a student who drops out of studies before graduation, reflects unsuccessful integration.

### *2.3 Successful Integration of Special Needs Students*

Around the world, more students with disabilities are gradually becoming integrated in higher education (Reiter, Kupferberg, & Gilat, 2017), although the issue of the benefits of integration remains a subject of debate (Reiter & Schalock, 2008). The social trends indeed favor inclusion, but the policy regarding implementation of integration is based on ideology more than on scientific findings. Dymond (2001) claimed that the integration of students and adults with disabilities as a worldview is not yet defined as a well-organized doctrine but rather is in a process of formulating perceptions, definitions, and principles.

In 1992 an article was published (Booth & Ainscow, 2002), defining three approaches to people with disabilities, which over history had emerged as social models of reference to the association between individuals with disabilities and the normative community:

1. The nursing care model, based on a perception of the individual that was customary in the middle ages, one governed by religious faith that espoused compassion and benevolence on one hand and perceiving the disability as a divine punishment for sins on the other.
2. The medical-scientific model emphasizing the need to try and cure the disability "afflicting" the individual.
3. The educational-humanist model reflecting the perception that advocates giving disabled people full civil rights based on their acceptance as equal to all other citizens.

The three models constitute the ethical foundation for establishing systems of assistance, support, education, and treatment of people with disabilities and their families (Reiter & Schalock, 2008). Use of the term "integration" has also undergone changes following the transition from the medical paradigm to the educational-humanist paradigm. "Integration" emerged in the 1980s with regard to the rights of children and adults with disabilities to live a "normal life": providing access to buildings, providing access to study materials, and maximal use of electronic technology in order to provide access to the academic environment. Integration led to a transition from their seclusion far from society to growing and living in the community, in the family home as children and in assisted facilities as adults employed in special work settings (Reiter et al., 2017).

In the 1990s, a humanist perception began to emerge, and the definition of disabilities was changed from a strictly medical definition to a social definition. This change led to a new paradigm of disability. A shift occurred in the definitions of integration, from its technical conception as life "in proximity to" the community to its dynamic conception as life as an integral part of the individual's social system. The term used changed from "integration" to "inclusion" (Reiter et al., 2017).

At present, we are on the cusp of a third era, where the humanist paradigm will be expanded to include populations with other disabilities as well, such as: chronic illnesses, ethnic minorities, or populations on a low socioeconomic level. The social-political-democratic perception emphasizes the heterogeneity of human society as a value rather than a burden or deviation that must be eliminated, namely, use of the terms "special education" and "special needs" - should be cancelled, as should be the terms "integration" and "inclusion". It based on the contention that education must relate to a heterogeneous society where the educational and academic environment provides a response for all children (Booth & Ainscow, 2002).

In summary, each of these concepts – "integration", "inclusion", and "heterogeneity" – has a contribution. The concept of integration notes legal aspects and indicates that it is necessary to continue offering laws of equality and affirmative action for people with disabilities. In addition, it is necessary to continue providing access to the physical environment with regard to buildings and technical equipment. The concept of containment stresses the interpersonal

dimension, i.e., the significant ties between people, and the concept of heterogeneity notes acceptance of those who are different.

According to these theories, we think that the important components for the successful integration of students on the autistic spectrum are: organizational support, development of advanced methods, and a tolerant atmosphere.

#### *2.4 A Case Study: Multisystemic Support at Ariel University*

Ariel University has been running a special program integrating students with special needs from 2008, with the purpose of creating equal opportunities for the future of HFA students (Ariel University, 2014). The support provided to the program's participants includes: accompaniment and support by a professional team in the academic, social, and personal spheres throughout the day, academic support by imparting learning tools and skills, workshops for instilling skills for independent functioning, and a supportive social system by means of experiential activities and tutors who live with students on the autistic spectrum (Ponomareva et al, 2016).

#### *2.5 Academic-Social Manners of Integration by HFA Students*

We shall relate to ways that may help affect the integration of HFA students.

##### *2.5.1 Organizational (Institutional) Assistance and Support*

Academic institutions have three functions: teaching, research, and contribution to the community (Berry, 1991). In our case, we are dealing with the integration of HFA students, which is part of contribution to the community.

According to Milstein and Rivkin (2013), who studied the education of people with disabilities, people with disabilities have a lower level of education than the general Israeli population. Fifty four percent do not have a matriculation certificate, compared to 36% in the general population. The rate of those with tertiary education (academic and non-academic) among people with disabilities is 29%, versus 38% in the general population. A lower proportion of people with disabilities use computers than of people with no disabilities, 58% versus 83%, respectively. Knowledge of English is scarce among people with disabilities compared to people without disabilities. Forty six percent of people with disabilities have no command of English versus 12% of people with no disabilities.

In Israel, as in many other countries in the Western world and in the Far East, the trend of integrating children and students in mainstream educational settings is gradually expanding. Nevertheless, Reiter and colleagues (Reiter & Schalock, 2008) indicate that the mere fact of integration is not a sufficient condition for enhancing the integration of people with special needs. This fact is mainly evident in the reports of the people themselves, who express dissatisfaction with their integration (Oluwole, 2009). Reiter et al. (2017) discern between two worldviews that guide integration work:

- A. **The normative perception**, which has guided integration policy until recent years and which sees integration itself as a target.
- B. **The humanist-educational quality of life approach** that has been developing recently and sees integration as a condition for enhancing quality of life, which is the important target. Hence, beyond policy based on the principles of the humanist-educational approach, it may also enhance the quality of life of students with special needs, both through their integration in educational institutions and through their integration in the community and its institutions.

The major idea in this study, which deals with the social-academic integration of HFA students, is the assistance of mentoring students who represent society's involvement in enhancing the study abilities of these students. To this should be added social programs initiated by the university as well as social dimensions of the institutional atmosphere. In summary, it appears that the academic integration of students on the autistic spectrum is a positive development and therefore it is important to examine the attitudes of the entire student body and of faculty towards HFA students in order to encourage their integration in the university. A university is an organization that operates as a community and it is comprised of different people. An academic institution provides individuals with personal, social, and environmental resources that offer experiences in a coherent and supportive academic environment that eventually lead to better organizational results (Vaandrager & Koelen, 2013).

An organization can reinforce mutual assistance by a supportive and skilled team that affects this assistance through the individual's sense of security, who can find in the organization and in his close environment efficient coping resources (Vaandrager & Koelen, 2013). Hence, the university as an organization can shape curriculum and teaching strategies that affect students as individuals and the surrounding society in general.

### 2.5.2 Academic-Social Climate and a Tolerant Atmosphere

Notzer, Zissenwein and Sarnat (1998, cited in Hativa & Goodyear, 2002) address seven points that represent the approaches and principles currently acceptable for teaching in higher education, which parallel those customary for centuries in yeshivas, where the act of teaching and the academic-social climate were valued (Davidovitch, 2009). Student self-efficacy is related to variables and features that involve various characteristics of the student and of the study techniques as well as of the teacher and the instruction. It is also related to various features of the learning environment, which is dependent on the organization's academic-social climate. Moreover, it is evident that students' high abilities are associated with the supportive atmosphere in the learning environment and with their degree of involvement. Students who reported a sense of involvement and the ability to influence decisions related to instruction and to the curriculum also reported high self-efficacy (Davidovitch, 2009).

In addition to the effect of the academic-social climate on the learning process, several researchers began to recognize the significance of the term "collective efficacy", which reflects the efficacy attributed to the social setting in the learning process (Bandura, 1997).

The perceived collective efficacy of a learning organization is related to variables such as: academic standards combined with belief in students' ability to achieve them; the support and involvement of teachers in their students' progress (Bandura, 1997).

Beyond the school's background and cultural features, it appears that also factors related to the nature of the class, such as its prestige, the discipline, etc., have an effect on the student's efficacy. Six directions can be indicated as capable of positively influencing the student's self-efficacy (Bandura, 1997; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Notably, these suggestions have yet to be systematically evaluated in Israel or elsewhere, and therefore they must be treated with caution. These are the following:

1. **Improving learning skills** – The rationale is compatible with Bandura's theory (Bandura, 1997), whereby the most significant source of self-efficacy is actual successful experiences.
2. **Improving disciplinary content knowledge** – The rationale for this strategy is based on the assumption that extensive knowledge and thorough understanding of the student's disciplinary field constitute an extremely important component of his learning quality. The assumption is that improving content knowledge will lead the student to a more positive learning experience, better achievements, and consequently, according to Bandura (1997), stronger self-efficacy.
3. **Increasing collaboration among the students** – Other studies (Davidovitch, 2009) seem to indicate that increasing true collaboration can have a positive effect on efficacy in three main ways: by discourse and discussions with peers the student may refine learning skills, acquire new perspectives and comprehension of the subject, and learn better ways of content-related discourse, writing papers, and presenting them to an audience. These might instill in him greater confidence and strengthen his self-efficacy (Bandura, 1997).
4. **Empowering the student** – Students' sense of empowerment depends on their grasp of the resources necessary in order to advance their academic and vocational achievements. Another way of empowering students, which might lead to increased self-efficacy, is by clarifying students' academic expectations (Davidovitch, 2009).
5. **Professional and emotional support of students** – Researchers have shown (Rich, Lev, & Fischer, 2000) that students' self-efficacy rises following positive feedback from an authoritative figure in the organization.
6. **Avoiding harm to one's ability due to the operation of external projects** – Activity in an organization that provides emotional and professional support to students in a period of change, and attempts by the organization to include students in decision making associated with the change plan, might serve as a balance to the natural drop in self-efficacy.
7. **Tolerant atmosphere** – Tolerance exists in the classroom between teachers and students accustomed to acting respectfully, with understanding, and with no discrimination, towards those who differ from them socially, physically, or mentally. Tolerance only exists when there is a contrast between the tolerant and the object of the tolerance.

In this study we chose to address the academic-social climate and the tolerant atmosphere, in particular, at institutions of higher education, as measured by a class environment questionnaire composed by Moos (1979). The underlying rationale is that human consensus concerning characteristics of the environment constitutes a measure of the academic-social climate in this environment.

### 2.5.3 Features of Teaching

Various studies that examined faculty's teaching purposes that they perceived as important, found that the purposes ranked highest were teaching facts, principles, and theories; developing high thinking skills among students and demonstrating intellectual, artistic, or scientific processes; promoting in-depth understanding of the course material in order to let students apply the material; and integration of knowledge (Hativa & Goodyear, 2002).

The relevant question for the current study is what teacher and what teaching method are suitable for students, HFA students, and students with special needs? Such a teacher is one who adapts his methods to the goals he wishes to achieve, to his students' character, to his thinking, to the context of his work, and more. In order to academically integrate HFA students, teachers should receive information about HFA and embrace specific teaching methods and behaviors that suit their personality and their goals. Such a process takes time and involves observation and reflection.

### 2.5.4 Opinions and Attitudes of a Society and Community Regarding Students with Special Needs

According to Triandis and Gelfand (1998), attitudes serve as a tool for analysis, adjustment, structuring, and understanding of the world around us as well as for defending the ego, by organizing and simplifying the data received from the environment and defining our approach to them. The researchers (ibid. 1998) attribute to attitudes three types of components:

- A. **Cognitive components** – that operate through processes of thinking and categorization. In our study the variables identified are: knowledge about HFA and need for advanced teaching methods, coordinating knowledge about a group of students and teaching methods.
- B. **Emotional components** – manifested by affiliating the identified category with pleasant and unpleasant situations and seeing one's thoughts in a positive or negative light, accordingly.
- C. **Behavioral components** – affected by habits (formed by learning processes), norms and compensation (determined by messages received from others), and manifested in readiness for action. Furthermore, in the current study we shall relate to tolerant behavior towards HFA students.

In order to arrive at an attitude there must be a correlation between the three components. The identified categories can raise feelings or norms that dictate behavior, but an opposite process is also possible, where behavior dictates feelings or norms. Attitudes are not an essential or sufficient reason for behavior, rather they serve as a guiding factor. Moreover, studies show that the most important condition for enhancing integration is attitudes that respect and support integration by the society in which people with special needs are integrated. Reiter and Schalock (2008) clarify why the topic of attitudes towards integration is a most important condition for people with special needs who become integrated in society. They argue that meaningful integration is based on principles, which share the existence of a positive social interaction between the person with special needs and his environment. We shall now present some of these principles based on Reiter and Schalock (2008).

Integration is multidimensional and it includes personal variables and environmental variables, objective and subjective variables, and the holistic component – each person is unique and special and is not only the sum of all variables that comprise him and his life. People are perceived in essence as social creatures. Therefore, a major component of integration is the individual's social and interpersonal connections.

These principles stress the nature of the interaction between the student with special needs and his environment as a condition for meaningful integration and hence also for success in educational institutions. These conclusions are also true of students with autism integrated in institutions of higher education.

The term integration includes emotional and conscious components related to the tendency towards a certain behavior. Scruggs and Mastropieri (1996), top researchers of teachers' attitudes to integration, proved that no consistency was found with regard to the readiness of teachers and teaching staff to integrate students with special needs. Studies conducted in Israel indicated similar findings (Ben Yehuda and Last, 2004). Reiter and Schalock (2008) claim that even if the educational institution has a clear policy oriented towards integration and if it has a variety of aides and tools to help the functioning of integrated students, so long as the teacher does not have faith in integration and his attitude does not support the idea, the student's integration will not succeed. Fox and Ysseldyke (1997) studied educational institutions that integrate students with special needs and discovered that negative attitudes of teachers led to their feelings that integration had failed, while positive attitudes were accompanied by positive feelings. Other studies showed a direct relationship between positive attitudes and the success of integration in emotional terms and on the social sphere (ibid. 2008). The effect of social norms on the labeling and social

placement of people with functional difficulties is steeped in failure to empower: discrimination, prejudice, stigma, and victim blaming. For example, there is an attitude whereby people with autism look scary, unexpected, and punishing. This thought might have been what led Tustin (1991, p. 36) to define autism as an "*early developmental deviance in the service of coping with absolute fear*". Psychoanalysts were accustomed to seeing autism as a regression to a normal autistic stage in childhood. Tustin (1991) changed this attitude and claimed that it is more appropriate to use the term autism "*for a number of specific pathological situations involving lack of human contact and the existence of an essential defect in one's mental and emotional life, where the defect is a result of the blocking of deficient early development of autistic procedures*".

In summary, the university reflects society's attitude to people with HFA and this attitude is determined accordingly. Therefore, opinions and attitudes in society as well as at the university are very important for the integration process of students on the autistic spectrum. As in society, the role of the academic institution is to consider approaches to HFA students, find ways of integrating them, and convey positive attitudes towards them.

### 3. Purposes of the Study

1. To examine what the university as an organization can contribute to the integration of HFA students in an academic setting, through its impact on the faculty and students.
2. To examine what factors affect the proper way for teachers to bring about the integration of HFA students.
3. To examine whether and to what degree the academic-social climate and the act of teaching affect the desired method of integrating HFA students in an academic setting, as perceived by the students.
4. To examine the effect of organizational support on teaching methods adapted for HFA students.
5. To examine the differences between faculty and students, and between mentoring students and HFA students, with regard to their perception of organizational support, of the academic-social climate, of tolerance, and of the need for adapted teaching methods.

The study examines faculty and students' perceptions of the effectiveness of a tolerant atmosphere and of advanced teaching methods. According to the literature review, academic institutions affect the academic-social climate and the perceptions of faculty and students. The more intensive and positive the impact of the institution, the greater the possibility of creating a tolerant atmosphere. At the same time, it appears that the institution has the greatest impact on faculty's desire to use advanced methods, as an informed method that facilitates the integration of students on the autistic spectrum studying at the university. Is it possible to indicate factors that might affect integration in academic studies?

### 4. Methodology

The study was based on a pre-test that included in-depth interviews with the research respondents (teachers, students, mentoring students, HFA (High-functioning autism) students, policy designers, and executives) and that served, in addition to the theories in the literature, as a foundation for building the research questionnaire. The current study is based on the questionnaire and the research method is quantitative.

#### 4.1 Research Population

The study participants were 686 students and teachers, of them 526 (77%) students, 103 teachers (15%), 30 (4%) HFA students, and 27 (4%) mentoring students.

##### 4.1.1 Characteristics of the Teachers

The research participants included 103 teachers. Of these, 48 (47%) were men and 55 (53%) women of different ages. Twelve teachers (12%) had seniority of up to 5 years in teaching, 42 (40%) had 6-15 years of seniority, 30 (30%) had 25 years, and 16 (18%) had 26-40 years. Thirty four teachers (34%) had a relative who is a student with learning disabilities and 68 (66%) had none. Sixty eight teachers (66%) had no experience with academic teaching of students with learning disabilities, and 31 of the teachers (34%) had experience with this type of teaching. Sixty eight (66%) were personally familiar with a person on the autistic spectrum, while 33 (34%) were not. Fifty one teachers (80%) had no or little knowledge about the integration of HFA students: 13 (12%) had moderate knowledge and 26 (16%) a high level of knowledge. Forty four teachers (43%) had experience with teaching high functioning students on the autistic spectrum, and 58 (57%) had no such experience. Only 40 teachers (40%) reported having a high degree of involvement with HFA students and 30 (31%) had no or little involvement.



#### 4.1.2 Characteristics of the Student Body

Among the students, 187 (367%) were men and 339 (64%) women. Two hundred ninety two students (56%) were 18-25 years old, 191 (36%) 26-35 years old, 27 (5%) 36-45 years old, 15 (3%) 46-55 years old, and one student (2%) was over 56. One hundred ninety three students (37%) were living in the student dorms and 322 (61%) were living at home. Four hundred fifty one (86%) were undergraduate students and 75 (14%) graduate students. Two hundred twenty six students (43%) had a relative who is a student with learning disabilities and 291 (55%) had none. One hundred ninety six (34%) had experience studying with students in an integration program and 329 (66%) had no such experience. Two hundred thirty eight (45%) were personally familiar with a person on the autistic spectrum, while 279 (53%) were not. One hundred fifty six (30%) had experience studying with students on the autistic spectrum, and 369 (70%) had none.

#### 4.1.3 Mentoring Students

Most of the mentoring students were men, 23 (85%), and 4 (15%) were women. Twenty four of them (89%) were aged 18-26 and 3 (11%) were aged 26-35. All 27 mentoring students were living in the student dorms and studying for their Bachelor's degree. Twelve of the mentoring students (44%) had relatives who are learning disabled students, and 15 (46%) had no such relatives. Ten of the mentoring students (44%) had experience in a program integrating people with various disabilities and 13 of them (56%) had no such experience. Moreover, they were all familiar with people on the autistic spectrum and had experience studying with them.

#### 4.1.4 HFA Students

Of the 30 students on the autistic spectrum, 29 were men (97%) and one woman (3%). All were living in the student dorms, studying for a Bachelor's degree, and aged 18-25.

Table 1. Level of familiarity with people with HFA (percentage of the group)

	Teachers	Students	Mentors
Family relationship with person with HFA	34	43	44
Familiarity with HFA	66	45	100
Knowledge about HFA	28		
Studying about or studying with person with HFA	66	30	100
Experience with program integrating HFA	43	34	44
Involvement with an HFA student	40		

Table 1 shows the level of familiarity with people with HFA.

Table 2. Distribution of the sample population by academic faculties (%)

	Teachers	Students	Mentors	HFA students
Natural sciences	14	7	7	33
Health sciences	20	37	4	3
Engineering	21	14	63	40
Social sciences and humanities	43	42	26	23

Table 2 presents the affiliation of the sample population with academic faculties.

#### 4.2 Research Tools

The following questionnaires were utilized in this study:

- Personal information questionnaire (Davidovitch, 2009)
- Questionnaire on attitudes towards integration of students on the autistic spectrum in academic institutions (Munk & Klivansky, 2009).
- Multidimensional Attitudes Scale (Findler, Vilchinsky, & Werner, 2007)
- Questionnaire on academic-social climate (Moos, 1979).
- Questionnaire on social and institutional integration (Tinto, 1975), developed by Pasacarella, Volniak, Seifert, Cruce and Blaich (2005) and adapted to the study.

Table 3. List of topics examined, by research population

	Teachers	All students	Mentors	Mentored
Personal information questionnaire	V	V	V	V
Familiarity with HFA	V	V	V	-----
Feelings towards HFA students	V	V	V	-----
Desire to receive knowledge about HFA	V	V	V	-----
Advanced teaching methods	V	V	V	-----
Tolerant atmosphere	V	V	V	-----
Organizational support	V	V	V	-----
Academic-social climate	V	V	V	V
Teacher involvement	V	V	V	V
Teaching methods	V	V	V	V
Academic-social integration	-----	v	V	v

Table 4. Test of factor reliability – students, mentors, HFA students

Factor	Number of factors	Cronbach's alpha
Familiarity with HFA	4	.83
Organizational support	9	.77
Feelings towards HFA students	5	.83
Teacher involvement	8	.63
Academic-social climate	15	.71
Academic-social integration	17	.70
<b>Dependent variables</b>		
Tolerant atmosphere towards HFA students	2	.86
Advanced teaching	4	.70

Table 5. Test of factor reliability – teachers

Factor	Number of factors	Cronbach's alpha
Familiarity with HFA	4	.83
Organizational support	10	.71
Feelings towards HFA students	5	.83
General teaching methods	3	.63
Teacher involvement	7	.70
Academic-social climate	12	.75
Teaching self-concept	8	.82
Desire to receive knowledge about HFA	2	.95
<b>Dependent variables</b>		
Tolerant atmosphere towards HFA students	3	.89
Advanced teaching	4	.77

The method of analysis was based on analyses of variance, multivariate regressions, and integrative pathway models.

## 5. Findings

The findings of the study will be presented in three chapters: A. differences between the groups; B. teachers – analysis using multivariate regression and multiple pathway model; C. students – analysis using multiple pathway models.

### 5.1 Differences between the Groups Studied

Table 6. One way ANOVA of significant differences found

Discriminant group	Teachers			Students		Mentoring students
	Students	Mentoring students	HFA students	Mentoring students	HFA students	HFA students
Familiarity with HFA	V	V	V	V		
Feelings towards HFA students	V			V		
Teacher involvement	V	V	V			
Academic-social climate	V	V	V		V	V
Organizational support		V	V	V	V	V
Advanced teaching methods	V	V				
Tolerant atmosphere	V			V		

#### 5.1.1 Summary of the Significant Differences

- In almost all the variables, mentoring students have the highest awareness and sensitivity to the subject of integration of HFA students in academic studies. In addition, the mentors are those who most demand that the organization provide support on this issue, by developing special learning methods for these students and by creating a more tolerant atmosphere in classrooms.
- In their evaluations, HFA students gave the lowest score of all groups for teacher involvement, academic-social climate, and necessary help by the organization.
- The group of all students gave the lowest score for desire of HFA students to become integrated in the fields of knowledge, feelings, teacher involvement, and support for means of integration by special teaching methods. At the same time, it also apparent that they have the lowest demand for a tolerant atmosphere towards these students in class.
- Teachers' evaluations vary according to the area examined. They think that they are highly involved in class and that the academic social climate at the university is good. In contrast, on subjects of knowledge, feelings, demand for organizational help, and desire for a tolerant atmosphere, their scores are intermediate, between the high scores of the mentors and the low scores of the students. Interestingly, in the subject of developing special advanced teaching methods for HFA students, they are the least enthusiastic.

### 5.2 Findings of Analysis for Teachers

The research question examined the variables that affect teachers' preferred method of integrating HFA students, whether tolerance in the classroom or special teaching methods. The analysis utilized multiple pathway regression.

Table 7. Results of the regression for predicting the demand for tolerant atmosphere and advanced teaching methods

Dependent variables Independent variables	Tolerant atmosphere			Advanced teaching methods		
	$R^2 = 21\%$			$R^2 = 24\%$		
	B	B	t	B	B	t
Organizational assistance and support	.33**	46.	3.12	24.*	34.	2.65
Desire to receive knowledge about HFA	-.12*	-.14	-1.73	-	-	-
Advanced teaching methods	-.32**	-.31	-3.13	-	-	-
Teaching methods	-	-	-	28.**	24.	2.97
Tolerant atmosphere	-	-	-	**-.31	-.31	2.46

Table 8. Direct and indirect correlations

Effect	Standardized Effect			Regression Weights (direct)		
	Total	Direct	Indirect	Estimate	C.R.	p
<b>Tolerant atmosphere</b>						
Teaching methods	-.54	-.54	.00	-.45	-2.97	< .003
Teacher involvement	.40	.40	.00	.54.	2.17	< .030
Organizational support	.30	.23	.07	.33	2.33	< .020
Feelings towards HFA students	.07	.00	.07			
<b>Advanced methods</b>						
Teaching methods	.45	.29.	.17	.25	3.20	< .001
Tolerant atmosphere	-.31	-.31	.00	-.33	-3.27	< .001
Organizational support	.18	.28	-.09	.41	2.98	< .003
Teacher involvement	-.12	.00	-.12			
Feelings for HFA students	.02	.00	.02			

Table 9. Other correlations found in the teachers' model

Effect	Standardized Effect			Regression Weights (direct)		
	Total	Direct	Indirect	Estimate	C.R.	P
Organizational support/ feelings towards HFA students	.32	.32	.00	.38	3.30	< .000
Feelings towards HFA students / teacher involvement	.17	.17	.00	.15	3.26	< .001
Organizational support / teacher involvement	.16	.11	.05	.12	2.12	< .034

Tables 8 and 9 present the direct and indirect relationships between the independent variables and the dependent variables of tolerant atmosphere and advanced teaching.

The findings show that organizational support has a direct positive correlation with factors that facilitate integration, tolerant atmosphere ( $\beta = .23$ ) and advanced teaching methods ( $\beta = .28$ ). Organizational support has a positive effect on personal background factors: there is a low direct positive correlation with teacher involvement ( $\beta = .11$ ) and feelings towards HFA students ( $\beta = .32$ ). No correlation was found between organizational support and teaching methods. The findings show that the demand for a tolerant atmosphere is negatively associated with the need for special teaching methods, with a direct and indirect correlation of  $\beta = -.54$ . In addition, it appears that the teacher's use of advanced methods has the greatest effect on the demand to use special teaching methods for HFA students.

### 5.3 Findings of Analysis for Students

#### 5.3.1 Effect of Organizational Support

Table 10. Direct and indirect correlations found in the students' model

Effect	Standardized Effect			Regression Weights (direct)		
	Total	Direct	Indirect	Estimate	C.R.	p
<b>Tolerant atmosphere</b>						
Familiarity with HFA	.13	.13	.00	.13	2.63	< .009
Academic-social integration	.13	.13	.00	.13	2.76	< .006
Organizational support	.13	.10	.04	.10	2.00	< .046
Feelings towards HFA students	.13	.13	.00	.13	2.69	< .007
<b>Advanced teaching</b>						
Organizational support	.47	.47	.00	.47	2.00	< .000
Academic-social integration	.00	.00	.00			
Feelings towards HFA students	.00	.00	.00			
Familiarity with HFA	.00	.00	.00			

Table 11. Additional correlations found in the students' model

Effect	Standardized Effect			Regression Weights (direct)		
	Total	Direct	Indirect	Estimate	C.R.	p
Organizational support / feelings towards HFA students	.14	.14	.00	.25	3.21	< .001
Organizational support / academic-social integration	.10	.10	.00	.09	2.30	< .021

Tables 10 and 11 present the direct and indirect relationships between the independent variables and the dependent variables of tolerant atmosphere and advanced teaching.

The research findings indicate that organizational support has a direct positive correlation with integration factors: tolerant atmosphere ( $\beta = .10$ ) and advanced teaching methods ( $\beta = .47$ ). Organizational support has a positive correlation with feelings towards HFA students ( $\beta = .17$ ), ( $\beta = .13$ ). Personal, institutional, and pedagogic influencing factors explain 17% of the variance in tolerant atmosphere,  $F(7, 390) = 11.54$ . The research findings show that familiarity with HFA has the greatest positive effect on tolerant atmosphere (.14); the variable of academic-social integration has the next highest effect (.12). The third highest effect is that of organizational support (.12). Finally, feelings towards HFA students are directly associated with tolerant atmosphere (.12). Organizational support has the greatest effect on advanced methods (.43).

Personal, institutional, and pedagogical (teaching) influencing factors explain 33% of the variance in advanced methods,  $F(8, 389) = 23.58$ . The variable with the highest contribution to explaining the variance is organizational support ( $\beta = .50$ ,  $p < .001$ ): The more organizational support, the more students prefer that teachers use special methods for HFA students. The variable with the next highest contribution is teacher involvement ( $\beta = .45$ ,  $p < .001$ ): The higher the teacher's involvement, the more students prefer that teachers use advanced methods, and vice versa. Academic-social climate also has an important contribution, but it is negative ( $\beta = -.41$ ,  $p < .001$ ): The more positive the academic-social climate, the more students think that there is less need for advanced methods, similar to the variable of feelings towards HFA students ( $\beta = -.20$ ,  $p < .0001$ ): The more positive the feelings, the less need there is for advanced methods.

## 5.3.2 Effect of the Academic-Social Climate

Table 12. Direct and indirect correlations found in the academic-social climate model

Effect	Standardized Effect			Regression Weights (direct)		
	Total	Direct	Indirect	Estimate	C.R.	p
<b>Tolerant atmosphere</b>						
Teacher involvement	-.49	-.50	.01	-.83	-5.51	< .000
Feelings towards HFA students	.15	.15	.00	.16	3.58	< .000
Academic-social integration	.13	.13	.00	.27	2.84	< .005
Familiarity with HFA	.12	.12	.00	.17	2.98	< .003
Academic-social climate	.08	.45	-.37	.86	4.84	< .000

Table 13. Additional correlations found in the academic-social climate model

Effect	Standardized Effect			Regression Weights (direct)		
	Total	Direct	Indirect	Estimate	C.R.	p
<b>Academic-social climate</b>						
Teacher involvement	.89	.89	.00	1.04	45.11	< .000
Academic-social integration	.36	.36	.00	.32	8.80	< .000
Feelings towards HFA students	.17	.17	.00	.31	3.87	< .000
<b>Familiarity with HFA</b>						
Teacher involvement	.11	.11	.00	.14	2.51	< .012

Tables 12 and 13 present the direct and indirect relationships between the independent variables and the dependent variables of tolerant atmosphere and advanced teaching.

The research findings indicate that academic-social climate has a direct positive association with tolerant atmosphere ( $\beta = .49$ ). The academic-social climate affects teacher involvement ( $\beta = .89$ ), academic-social integration ( $\beta = .36$ ), and feelings towards HFA students ( $\beta = .17$ ).

## 6. Discussion and Conclusion

This study examined the attitudes of faculty and students to the integration of HFA students in higher education in Israel. The research findings showed that organizational support by the university is an important factor with a positive effect on the two alternative systems for integration, tolerant atmosphere and special teaching methods for these students. This effect is formed through positive teacher feelings and a cognitive desire to be well known and involved with all students and with HFA students. Moreover, they wish to be aware of their teaching abilities. This is compatible with Rich and colleagues, who said that in order to do well in academic studies the organization must consider and act with extra sensitivity towards those with low abilities in order to increase their chance of collaborating, particularly when external elements are involved (Rich, Lev & Fischer, 2000).

The teachers believe that the best way of helping HFA students is organizational support that affects the teacher's involvement in class and that, together with the indirect effect on forming positive feelings towards HFA students, leads teachers to positive formation of a tolerant atmosphere in class. Teacher involvement in class is the most important factor for understanding students' knowledge level and needs.

Organizational support, together with prior experience of teachers with using advanced teaching methods in their classes for all students, constitute important factors that affect the desire to use special advanced teaching methods for HFA students as well. The most surprising result of the study is the negative association found between tolerant atmospheres and advanced teaching methods. This finding can be explained by the different personal skills of each teacher. If the teacher relies more on his own emotional attitudes, he tends to use a tolerant atmosphere in class, but if he relies more on his cognitive attitudes when teaching, he will prefer to use special methods developed for HFA students. If the atmosphere in class is tolerant, the teacher will develop an understanding of others and a desire to form a supportive and inclusive atmosphere for others.

The variable of organizational support is an important factor among all students as well. Students prefer that the integration of students on the autistic spectrum be the responsibility of the faculty, by constructing appropriate teaching methods for these students. Students think that a tolerant atmosphere is important and that an academic institution should also be in charge of the atmosphere, but advanced teaching methods are a more appropriate response for HFA students.

The second variable that contributes to explaining the variance is academic-social climate. Students think that academic-social climate is important and also that it affects teachers' desire to be attentive to students and to help them as well as the tolerant atmosphere in class. Nonetheless, the more the teacher is involved in class there is naturally a tolerant atmosphere in class. For example, higher tolerance was found in the Faculty of Natural Sciences. Notably, most HFA students study in this faculty and the teachers and students are already familiar with HFA and are more tolerant towards these students. Moreover, the higher the integration of students in their studies and in society, this naturally facilitates a more tolerant atmosphere.

Furthermore, students' perceived ability was found related to variables and characteristics associated with varied features of the student and of the study methods as well as of the teacher and the teaching, and it is related to a variety of characteristics of the study environment, which depends on the organization's academic-social climate (Davidovitch, 2009).

Students comprise two groups: one group includes students who think that the integration of HFA students can be achieved through academic-social integration and they are fully accepted (positive feelings towards them), and the second group includes students who think that it is better to integrate HFA students through familiarity with HFA and teacher involvement. The significance of a tolerant atmosphere as perceived by students is a measure of the academic-social climate of this environment (Moos, 1979). Namely, students believe that a tolerant atmosphere represents all needs.

When comparing students and teachers, the research findings indicate that students are less involved in the integration of HFA students. Hence, their approach to a tolerant atmosphere in class towards these students is also the lowest, and in contrast, their appreciation of advanced teaching methods is higher. Students think that the factor of organizational support is extremely important for developing advanced teaching methods for HFA students. Then again, teachers think that they are highly involved in class and that the academic-social climate at the university is good, but in contrast to students they are the least enthusiastic on the subject of developing advanced teaching methods.

**In summary**, according to the research findings it is possible to discern the most important factors for the integration of HFA students in an academic institution:

### *6.1 A Holistic Perspective of the Integration of HFA Students by an Academic Institution*

The study proposes a holistic approach of a program for integration of HFA students, which includes involvement of the following elements: the organization, the teachers, the entire student body – and also the mentors and the mentored students. A holistic perspective of the individual, meaningful learning in a heterogeneous classroom, and a tolerant atmosphere at the university – for these it is necessary to make an effort in order to help individuals with disabilities be like everyone else rather than standing out. It appears that a proper holistic perspective will lead to efforts to change the life of individuals with disabilities, as manifested by social laws, teaching methods, the expectations of auxiliary staff, demands by representatives of the authorities and of government ministries. This type of integration involves reciprocal relationships between those integrated and those integrating – it is not only a life of one beside the other but rather a shared life that includes personal acclimatization in the community as individuals and as citizens (Reiter et al., 2017).

It is important that an academic institution have a holistic perspective of supporting HFA students. This means a strategy for the integration of these students: administrative assistance, the need to raise awareness among teachers and students, understanding their unique needs, constructing social and academic programs, as well as a positive academic-social climate and involvement of the teacher in the act of teaching (Davidovitch et al., 2017). Organizational support has an important role in the integration of HFA students at the university by creating a tolerant atmosphere in class and by choosing and implementing teaching methods that suit their needs. A supportive, tolerant atmosphere, positive relations with the teacher, and adequate teaching practices will enable these students to become integrated and to develop their academic potential. The research findings indicate that an academic institution creates a tolerant atmosphere and generates among teachers a desire to develop advanced teaching

methods. Accordingly, it is evident that organizational support affects the tolerant atmosphere both directly and indirectly but also has an indirect effect through positive feelings and teacher involvement.

**Social integration and interpersonal interaction.** The research findings corroborate the research literature (Reiter et al., 2017), whereby the integration strategy is significant for the process of integrating HFA students. HFA students have interactions with mentors and occasionally with other students at the university who are in their vicinity, and receive from them recognition and social support. HFA students see academic integration as an opportunity for them to become acquainted with new people and to acquire new friendships. They stress the significance of acquaintance and friendship with students without disabilities and express expectations and hopes of forming social ties and of becoming socially integrated in the university. These ties express mutual caring and concern that are characteristic of the relationship between the mentored student and the mentors. This finding indicates fictional acceptance whereby often, in interactions between people with disabilities and people without disabilities, both sides restrict themselves to polite and careful behavior with no real full acceptance of the person with disabilities (Borsuk, 2007). Nevertheless, the current study shows that a merely functional relationship also leads to successful integration of HFA students.

#### *6.2 Receiving Knowledge about HFA (Rising Awareness of the HFA Syndrome).*

It is important for both teachers and students as a whole to receive knowledge about HFA. In interviews for the current study, mentors of HFA students indicated having no previous acquaintance with HFA. Despite mentors' high willingness and readiness, some noted that it took them time to become familiar with the mentored student and his abilities and to adjust the role to him. The mentors were required to learn the correct way of communicating with the program's participants almost on their own and to adapt their behavior and language to the mentored student's capacity to understand. Notably, teachers think that the integration of HFA students should be more tolerant and that organizational support should be implemented, while mentors think that there is need for advanced teaching methods.

#### *6.3 Academic-Social Climate and the Act of Teaching.*

According to the research results, students think that advanced teaching methods are a good solution for the integration of HFA students. Additionally, everyone thinks that teacher involvement and academic-social climate are important. We found that there is no need for relevant advanced methods if there is a supportive and positive climate and positive teacher involvement in class. Teachers say that teacher involvement and tolerance are important for a tolerant atmosphere. In contrast, students found a negative association between teacher involvement and a tolerant atmosphere. On one hand, students want teachers to be involved in their social group, but on the other they think that teachers have a negative impact on the tolerant atmosphere and academic-social climate. Students think that teachers are mostly involved in the wrong issues and make more of an effort in academic areas. The results of the study explain the processes that lead to the impact of teaching methods or tolerant atmosphere and the relationships between them. Viner and colleagues (2015) indicate disparities between teachers' and students' perceptions regarding the important goals of teaching and their success in achieving these goals, as well as regarding the efficacy of teaching. For instance, teachers perceived themselves as good teachers with satisfactory general pedagogical knowledge, who manage to implement this knowledge in teaching, versus students who were very critical of the level of teaching they received in these courses (Hativa & Goodyear, 2002). Other studies show that teachers consider themselves good teachers with high standard teaching (Ben Yehuda & Last, 2011).

The findings of the current study show that students and teachers indicate that the most important factors for the integration of HFA students and of all students are the act of teaching and a tolerant atmosphere. If there is a tolerant atmosphere in class there is less need for advanced teaching methods. Tolerance develops understanding of other people and a desire to form an inclusive and supportive atmosphere towards each other. This is the key to the success of mentors working with HFA students.

In summary, each group may be said to have a significant role in integrating HFA students: teachers must create a tolerant atmosphere in class and choose an appropriate way of teaching as well as of examining and checking student achievements; students must be accepting and tolerant towards HFA students; and mentors must socially mediate the student's world and help him build social ties.

#### *6.4 The Theoretical Contribution and the Applied Implications of the Study*

The theoretical contribution of this study is the integration in a multidimensional conceptual model that examines the effect of the academic organization on the integration of HFA students, which has received no thorough research



attention to date. Another contribution is examination of the model with two groups concurrently, a population of teachers and a population of students, using identical or parallel questions.

As evident from the research literature, the program integrating HFA students in the academic system is in a process of development. Programs are still on a small scale, both in Israel and elsewhere. Therefore, it is important to continue following programs of the type studied, which have the potential of being inspiring models of integration. The contribution of studies dealing with the input and output of these programs is valuable for a society that promotes the value of equal opportunities for all. Based on this type of program offering integration of HFA students, there is room for international comparative studies.

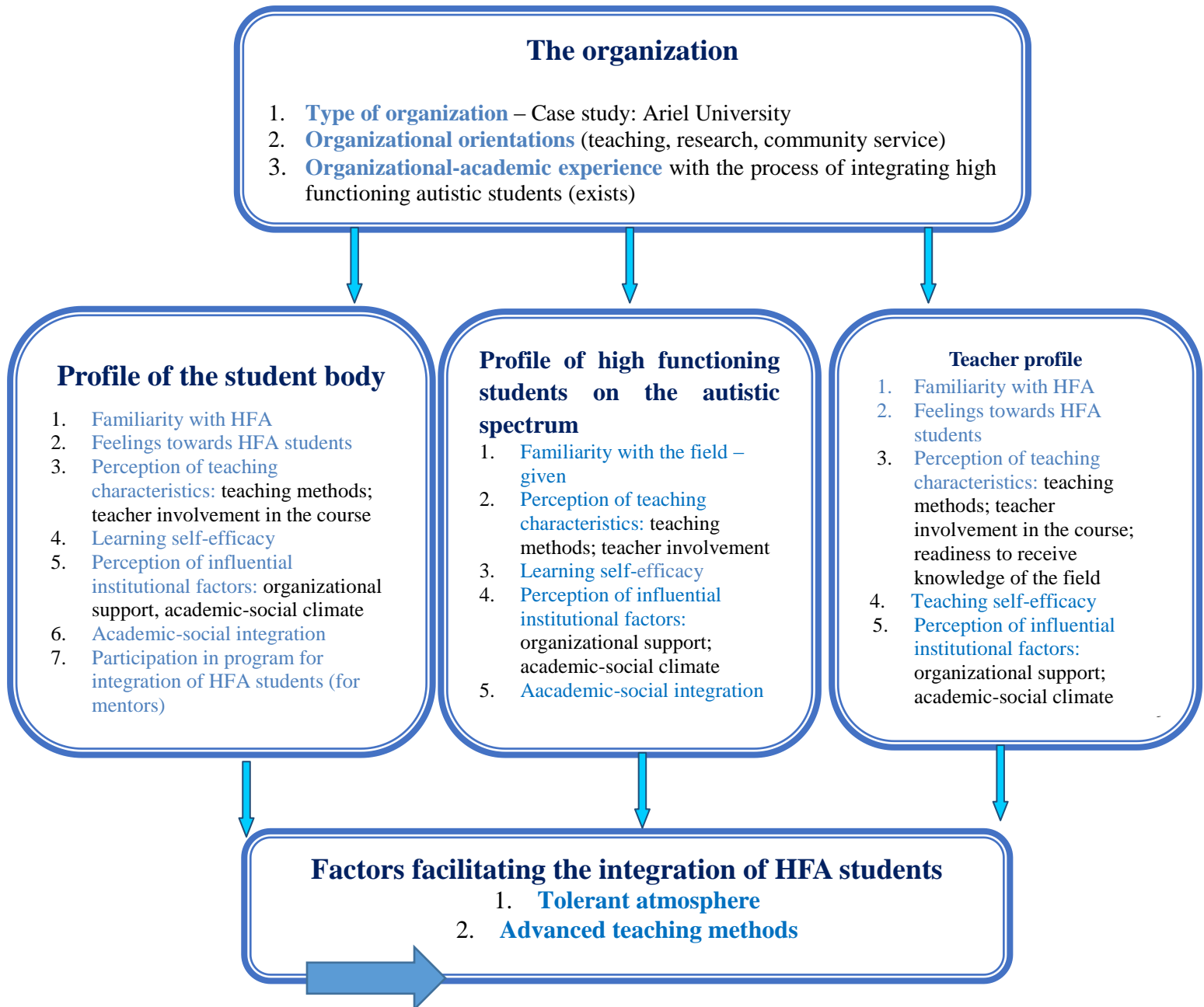


Figure 1. Chart of the study

**References**

Ariel University. (2014). Program for integration of high functioning students on the autistic spectrum. <https://www.ariel.ac.il/studentsservices/dean/support-for-student/integration-program-for-students-on-the-high-f>

unctioning-autistic-continuum- [in Hebrew]

- Baker, R. W., & Siryk, B. (1986). Exploratory intervention with a scale measuring adjustment to college. *Journal of Counseling Psychology, 33*(1), 31-38. <https://doi.org/10.1037/0022-0167.33.1.31>
- Bandura, A. (1997). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review, 84*, 191-215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Ben-Yehuda, S. & Last, A. (2004). Attitudes of teachers who manage to socially integrate students with special needs in their classrooms. *Sugyot Behinuch Meyuhad Uveshikum, 19*(2), 65-78. [In Hebrew]
- Ben-Yehuda, S. & Last, A. (2011). Psychoeducational profile of teachers who manage to socially integrate students with special needs in their classrooms. *Dapim, 40*, 180-207. [in Hebrew]
- Berry, J. W. (1991). Understanding and managing multiculturalism: Some possible implications of research in Canada. *Psychology and Developing Societies, 3*(1), 17-49. <https://doi.org/10.1177/097133369100300103>
- Booth, T., & Ainscow, M. (2002). *Index for inclusion: Developing learning & participation in schools*. Bristol, UK: Centre for Studies in Inclusive Education (CSIE).
- Borsuk, V. (2007). Evaluating needs and measuring achievements of students with disabilities in the inclusive classroom. In S. Reiter, Y. Leyser, & G. Avisar (Eds.), *Shilouvim: The inclusion of students with special needs in schools*. Haifa: Ahva Publishers. [In Hebrew]
- Cabrera, A. F., Castaneda, M. B., Nora, A., & Hengstler, D. (1992). The convergence of two theories of college persistence. *Journal of Higher Education, 63*(2), 143-164. <https://doi.org/10.2307/1982157>
- Davidovitch, N. (2009). Can an academic institution affect graduates residence choices? *A comparison of perceptions and attitudes of graduates of The Ariel University Center of Samaria towards the Samaria region, 12*(12), 46-60.
- Davidovitch, N., Ponomareva, E., & Shapiro, Y. (2017). Attitudes of students and teaching staff regarding the integration of high functioning autistic students in the higher education system in Israel. *International Journal of Child Health and Human Development, 10*(1), 11-16.
- Dymond, S. K. (2001). A participatory action research approach to evaluating inclusive school programs. *Focus on Autism and other Developmental Disabilities, 16*, 54-63. <https://doi.org/10.1177/108835760101600113>
- Findler, L., Vilchinsky, N., & Werner, S. (2007). The Multidimensional Attitudes Scale toward persons with disabilities (MAS). *Rehabilitation Counseling Bulletin, 50*, 166-176. <https://doi.org/10.1177/00343552070500030401>
- Fox, N. E., & Ysseldyke, J. E. (1997). Implementing inclusion at the middle school level: Lessons from a negative example. *Exceptional Children, 64*, 81-98. <https://doi.org/10.1177/001440299706400106>
- Gurtin, P., Dey, E. L., Hurtado, S., & Gurtin, G., (2002). Diversity and higher education: Theory and impact on educational outcomes. *Harvard Educational Review, 72*(3), 330-366. <https://doi.org/10.17763/haer.72.3.01151786u134n051>
- Hativa, N., & Goodyear, P. (2002). Research on teacher thinking, beliefs and knowledge in higher education: Foundations, status and prospects. In N. Hativa & P. Goodyear (Eds.), *Teacher thinking, beliefs and knowledge in higher education* (pp. 335-359). Dordrecht, the Netherlands. [https://doi.org/10.1007/978-94-010-0593-7\\_15](https://doi.org/10.1007/978-94-010-0593-7_15)
- Hativa, N., Many, A., & Dayagi, R. (2010). The whys and wherefores of teacher evaluation by their students. *Al Hagova, 9*, 30-37. [in Hebrew]
- Hendrickx, S. (2009). *Asperger syndrome and employment: What people with Asperger syndrome really really want?* London and Philadelphia: Jessica Kingsley Publishers.
- Howlin, P. (2004). Autism: Mind and brain. *The Journal of Child Psychology and Psychiatry, 45*(1), 171-191. <https://doi.org/10.1111/j.1469-7610.2004.t01-1-00211.x>
- Israeli Knesset (March 5, 1998). *Equal Rights for People with Disabilities Law, 1998*. Book of Laws 1658, p. 152. <https://main.knesset.gov.il/Activity/Legislation/Laws/Pages/LawBill.aspx?t=LawReshumot&lawitemid=165017> [in Hebrew]
- Knotta, F., & Taylora, A. (2014). Life at university with Asperger syndrome: A comparison of student and staff perspectives. *International Journal of Inclusive Education, 18*(4), 411-426.

<https://doi.org/10.1080/13603116.2013.781236>

- Milstein, E. & Rivkin, D. (2013). *Inclusion of children with special needs in mainstream schools: Promoting inclusion and creating an inclusive school culture*. Jerusalem: Myers JDC Brookdale Institute. [in Hebrew]
- Ministry of Education, Division of Special Education (n.d.). *Guide for parents of integrated children*. <http://www.alut.org.il/frames/activities/activities.html> [in Hebrew]
- Moos, R. H. (1979). *Evaluating educational environments*. San Francisco: Jossey-Bass.
- Munk, M. & Klivansky, H. (2009). *Integrating children with special needs in the Scouts*. Jerusalem: National Insurance Institute, Research and Planning Administration. [In Hebrew]
- Narasingharao, K., Pradhan, B., & Navaneetham, J. (2017). Efficacy of structured yoga intervention for sleep, gastrointestinal and behaviour problems of ASD children: An exploratory study. *Journal of Clinical and Diagnostic Research*, 11(3), VC01-VC06. <https://doi.org/10.7860/JCDR/2017/25894.9502>
- Pascarella, E., Wolniak, G. C., Seifert, T. A., Cruce, T. M. & Blaich, C. F. (2005). *Liberal arts colleges and liberal arts education: New evidence on impacts*. San Francisco: Jossey-Bass/ASHE.
- Ponomareva, E., Davidovitch, N., & Shapira, Y. (2016). Integrating students with disabilities in the academia – A rewarding challenge. In R. Parsons (Ed.), *Learning disabilities: Assessment, management and challenges* (pp. 173-182). New York: Nova Science Publishers.
- Reiter, S., Kupferberg, I., & Gilat, I. (Eds.) (2017). *Contemporary issues in the inclusion of children and adults with special needs in Israel: A collection of papers*. Mofet Institute. [in Hebrew]
- Reiter, S., & Schalock, R. L. (2008). Applying the concept of quality of life to Israeli special education programs: A national curriculum for enhanced autonomy in students with special needs. *International Journal of Rehabilitation Research*, 31, 13-21. <https://doi.org/10.1097/MRR.0b013e3282f45201>
- Rich, Y., Lev, S., & Fischer, S. (2000). *Extending the concept and assessment of teacher efficacy*. Bar-Ilan University.
- Ross, A. (2003). Access to higher education: Inclusion for the masses? In L. Archer, M. Hutchings, & A. Ross (Eds.), *Higher education and social class: Issues of exclusion and inclusion* (pp. 45-74). London: Routledge Palmer.
- Scruggs, T. E., & Mastropieri, M. A. (1996). Teacher perceptions of mainstreaming/inclusion, 1958-1995: A research synthesis. *Exceptional Children*, 63(1), 59-74. <https://doi.org/10.1177/001440299606300106>
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45, 89-125. <https://doi.org/10.3102/00346543045001089>
- Triandis, H. C., & Gelfand, M. J. (1998). Converging measurement of horizontal and vertical individualism and collectivism. *Journal of Personality and Social Psychology*, 74, 118-128. <https://doi.org/10.1037/0022-3514.74.1.118>
- Tustin, F. (1991). Revised understandings of psychogenic autism. *International Journal of Psychoanalysis*, 72(4), 585-592.
- Unites Nations. (2007). *Convention on the rights of persons with disabilities: Resolution*. Upper Saddle River, NJ: Pearson. <http://www.unhcr.org/refworld/docid/45f973632.html>
- Vaandrager, L., & Koelen, M. (2013). Salutogenesis in the workplace: Building general resistance resources and sense of coherence. In G. F. Bauer & G. J. Jenny (Eds.), *Salutogenic organizations and change: The concepts behind organizational health intervention research* (pp. 77-89). Dordrecht: Springer. [https://doi.org/10.1007/978-94-007-6470-5\\_5](https://doi.org/10.1007/978-94-007-6470-5_5)
- Viner, G., Filk, G., & Kortyukov, D. (2015). What do students think about what is good teaching and who is an outstanding teacher? Survey by the Student Association. *Hora'ah Ba'akademya*, 5, 31-41. [In Hebrew]
- Ward, T., & Stewart, C. (2009). Putting human rights into practice with people with an intellectual disability. *Journal of Developmental and Physical Disabilities*, 20, 297-311. <https://doi.org/10.1007/s10882-008-9098-4>
- Werner, S. (2015). *The military service of people with intellectual disabilities: Its effect on the quality of life of individuals and their parents and on the attitudes of the environment towards people with intellectual disabilities*. Paul Baerwald School of Social Work and Social Welfare, Hebrew University, with the assistance of the Shalem Foundation. [In Hebrew]