European Journal of Educational Research
Volume 6, Issue 2, 123 - 134.
ISSN: 2165-8714
http://www.eu-jer.com/

Dropouts and Budgets: A Test of a Dropout Reduction Model among Students in Israeli Higher Education*

Ran Bar-Am
West University of Timisoara, ROMANIA

Osama Arar **
West University of Timisoara, ROMANIA

Received: March 7, 2017 ▪ Revised: March 27, 2017 ▪ Accepted: March 28, 2017

Abstract: This article deals with the problem of student dropout during the first year in a higher education institution. To date, no model on a budget has been developed and tested to prevent dropout among Engineering Students. This case study was conducted among first-year students taking evening classes in two practical engineering colleges in Israel. There are three dimensions of the dropout reduction model: social support, institutional support and personal commitment. The results of the intervention had a positive effect on all three dimensions.

Keywords: *dropout reduction, educational intervention, efficiency, human capital, productivity, student retention.*

To cite this article: Bar-Am, R., & Arar, O. (2017). Dropouts and budgets: A test of a dropout reduction model among students in israeli higher education. *European Journal of Educational Research*, *6*(2), 123-134. doi: 10.12973/eu-jer.6.2.134

Introduction

In 2015, 310,000 students studied in Israeli colleges and universities. The state, through the Committee for Planning and Budgeting if the Higher Education Council, subsidizes every student with 20,000 NIS on average. About 25% of college students drop out. A third of those who drop out of Israeli practical engineering colleges drop out in the first year (Ayalon & Mcdossi, 2016; Fichten et al., 2016). The state invests close to a billion NIS annually without return. Higher education establishments also lose about 300 million NIS from loss of tuition (Israel Central Bureau of Statistics, 2014). 'Currently too many students in the EU drop out before they complete their higher education degree. Students from a lower socio-economic background and other disadvantaged groups are the most likely to drop out'. (Quinn, 2013: page 7).

There is a particular concern in developing nations like Israel, which need to improve the education level of their citizenry through higher education in order to keep pace with the developing global economy (Arzu, 2012; Brown, Bull, & Pendlebury, 2013). Therefore, it is important to understand the causes of dropout and address them through effective dropout prevention at the institutional level.

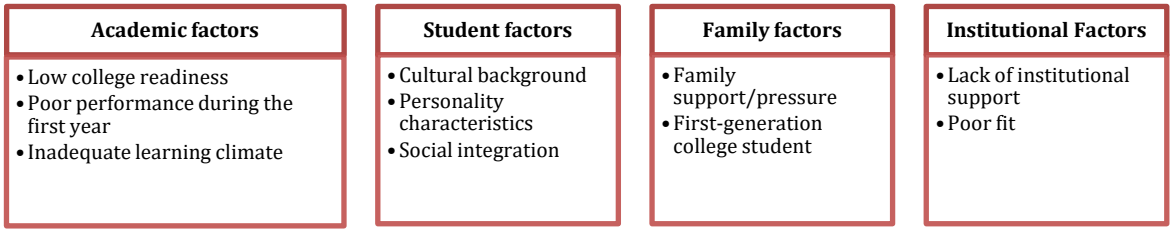
The phenomenon of dropout carries a high social and institutional price on three levels:

- **Student level**: dropping out might adversely affect students' social, professional, and financial futures.
- **College level**: there is a direct cost due to loss of tuition and budgeting awarded by the state per student; there is also an indirect due to increased fixed expenditure per student and damage to the reputation of the institution
- **Social level**: dropping out might increase socioeconomic gaps in the country by contributing to a higher proportion of unskilled labour.

Individuals who drop out will be less educated and less professional, and the educational institution may lose some of its income (Kalsbeek & Zucker, 2013; Shields, 2016; Wagner, 2015). Higher education dropout decreases the capabilities of society and it may weaken developing states and lead to their stagnation (Murnane & Ganimian, 2014). A few of the reasons factor for dropout are presented in table 1:

*** Ran Bar-Am. and Osama Arar. contributed equally to this work**
****Corresponding author:**
Osama Arar, 123 Jerusalem blvd, Tel-aviv, Israel
Email: arar.osama@gmail.com

Table 1. Main reasons for dropout



The majority of research on dropout has focused on student factors affecting dropout, such as academic factors (Aguiar, Chawla, Brockman, Ambrose, & Goodrich, 2014; Meyer & Marx, 2014), and demographic characteristics (Chies et al., 2014; Jenkins-Guarnieri et al., 2015). Research has begun to show that social support (Bergman, 2016; Jenkins, Belanger, Connally, Boals, & Durón, 2013) and institutional support (Bask & Salmela-Aro, 2013; Gabbard & Mupinga, 2013; Shah & Whannell, 2016) are crucial to preventing dropout in higher education.

Social support is defined as social interaction over long periods of time between individuals who share the same values, who can be trusted, and who can offer emotional encouragement, help, and resources (Gray et al., 2013). *Institutional support* is defined as interpersonal communication between a student and the staff and faculty of an institutional. Regardless of student personal factors, those at risk of dropping out have less social support than those with less risk, and the same is true of institutional support (Jenkins et al., 2013).

Dropout Reduction Model

The model includes three main values presented in table 2:

Table 2. The Dropout Reduction Model

Main value	Strategy	Focus
Personal commitment	Achieving goals	Improving achievements Acquiring learning skills
Social support	Communal studying	Self- actualization Group training Peer instruction
Institutional openness	"Open door" policy	Management involvement Administration involvement

The intervention included activity on 4 levels: Table 3 summarizes the relevant activities.

Table 3. Model Dimensions

	Activities for implementation of the intervention	Resources for implementation of the intervention
Student level	Personal target program for improvement of competitiveness and meeting attendance targets.	Tools: continuous attendance log of a student, grades sheet.
	Practice and personal experience throughout two semesters.	Personal meeting with a student that includes support, consulting and guidance by the following college factors: secretaries, lecturers, department head and college principal.
Class level	Collaborative learning and peer instruction workshop.	Allocation of hours for the workshop in each class by professional factors (department heads).
	Target management workshop through supplying tools for time management and planning.	
	Feedback conversations on learning experience and intervention results.	Class/personal conversations

Table 3. Continued

	Activities for implementation of the intervention	**Resources for implementation of the intervention**
Lecturer level	Collaborative learning workshop that instills a lecturer with teaching skills.	Scheduling department meetings Supplying support and instruction for lecturers by the department head.
College level	Open door workshop that provides the management level and the administrative level a change in attitude and behavior regarding the treatment of a student.	Scheduling board meetings, supplying explanation and updates regarding the intervention process and its results.

Research Design

The present mixed-method study was conducted using a case study design. A case study is an in-depth investigation of a single individual, group, incident, or community (Rule and John, 2015). A case study can be done with qualitative tools, but, in the current study, a mixed research method has been chosen.

Sample and Setting

The study was conducted in the Department of Industry and Management in two practical engineering colleges. The criteria for selecting student participants were study in practical engineering colleges in Israel in a Department of Industry and Management in the evening course.

The students in Group 1 were from college A and consisted of 22 students, ranging in age from 22 to 45; eight were female and 14 were male. The students in Group 2 were from college B. Group B consisted of 19 students, aged 24–42. six were female and 13 were male.

The population distribution according to gender of the 40 students who participated in the questionnaires at the beginning of first semester presented in figure 1:

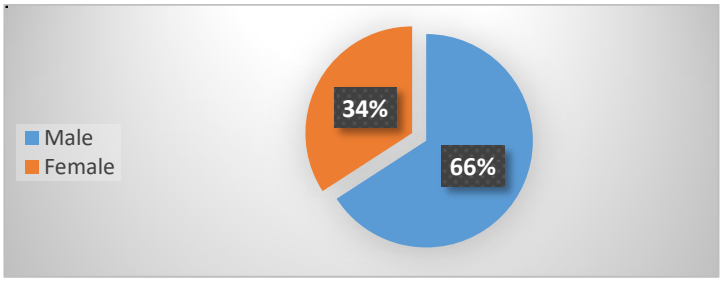


Figure 1. Gender distribution at the beginning of the first semester

Group A interview 6 participants ranged in age from 23 to 43 and Group B interview 6 participants range in age from 25 to 40. *The Distribution is* presented in Table 4:

Table 4. Distribution of Interviewees According to Demographic Variables

No.	**Code**	**Age**	**Status**	**Gender**
1	A1	37	Married +1	Female
2	A2	36	Married+2	Male
3	A3	23	Unmarried	Male
4	A4	32	Married	Male
5	A5	26	Unmarried	Female
6	A6	43	Married+3	Female
7	B1	27	Unmarried	Male
8	B2	36	Divorcee+1	Female
9	B3	39	Married+3	Male
10	B4	25	Unmarried	Male
11	B5	40	Unmarried	Male
12	B6	32	Married+1	Male

Research Intervention

The intervention was validated using the Delphi technique. In the study, consensus is defined as agreement among over 60% of the experts on both the influence of a determinant and the direction towards which that influence of a survey tends (Diamond et al., 2014).

Research Tools

- *Model Validation:*
- Delphi questionnaire administered to 6 experts
- *Quantitative*:
- 4 closed-ended questionnaires administered pre- and postintervention
- Social support questionnaire
- Self-realization questionnaire
- Personal commitment
- Institutional support (postintervention only)
- *Qualitative*:
- One-on-one, semistructured interviews conducted pre- and postintervention
- Researcher's log detailing the intervention process, observations, and accounts of meeting with college staff

Data collection timeline

The questionnaires were validated through eliciting feedback from 16 students from another two classes in the two colleges in same year. The questionnaires were handed out to a group of eight students in each college from a parallel class. Data collection proceeded in ten stages, as follows.

- **Stage I:** Design of the Dropout Reduction Model and the associated intervention, then validated both with a Delphi questionnaire (2014-2015).
- **Stage II:** Design of the closed-ended questionnaires and semi-structured interview guides (2014).
- **Stage III:** Distribution of the qualitative questionnaire amongst the participants in the two colleges, as part of the lessons in the college, in the beginning of the first semester, prior to implementation of the intervention (Nov. 2, 2014).
- **Stage IV:** Collection of the qualitative data through semi-structured interviews prior to implementation of the intervention (Nov. 3, 2014 - Nov. 4, 2014).
- **Stage V:** Delivery of workshops to the students and staff in each college (Nov. 5, 2014 - Nov. 6, 2014).
- **Stage VI:** Implementation of the intervention at a class level and the level of the system. During the semesters, several feedback meetings were held with students, lecturers, and managers .
- **Stage VII:** Collection of data through closed-ended questionnaires at the end of implementation of the intervention (June 6, 2015).
- **Stage VIII:** Collection of qualitative data through semi-structured interviews upon the end of implementation of the intervention (June 14, 2015 - June 15, 2015).

The intervention began on Sunday, Nov. 2, 2014, with distribution of closed-ended questionnaires to students. The intervention continued over two semesters and ended on July 29, 2015, in a summary executive meeting. The timeline of the intervention is presented in Table 5.

Table 5. Intervention Timeline

Participants	College	Subject	Date
Class	A+B	First semester: first day	14.08.2014
Class	A+B	Attitudes questionnaire	02.11.2014
Students 6	A	Personal interview	03.11.2014
Students 6	B	Personal interview	04.11.2014
Class	A	Workshop: Learning by target setting	05.11.2014
Class	B	Workshop: Learning by target setting	06.11.2014
Management	A+B	Workshop: Open-door	07.11.2014
Class	A	Workshop: collaborative learning	09.11.2014
Class	B	Workshop: collaborative learning	10.11.2014
Lecturers	A+B	Workshop: Group training	11.11.2014
Lecturers	A+B	Meeting + Feedback	01.12.2014
Administration	A+B	Meeting + Feedback	26.01.2015
	A+B	End of first semester	29.01.2015
Management	A+B	Board meeting : Findings + Feedback	09.02.2015
	A+B	Second semester: first day	05.03.2015
Lecturers	A+B	Meeting + Feedback	20.04.2015
Class	A	Meeting + Feedback	12.05.2015
Class	B	Meeting + Feedback	14.05.2015
Class	A+B	Attitudes questionnaire	11.06.2015
Students 6	A	Personal interview	14.06.2015
Students 6	B	Personal interview	15.06.2015
	A+B	End of second semester	18.06.2015
Lecturers	A+B	Meeting: findings ,discussion, conclusion	28.07.2015
Management	A+B	Board Meeting: findings, discussion, conclusion	29.07.2015

Data Analysis

Data were analyzed by calculating averages and standard deviations, and by conducting a *t* test with a 95% confidence intervals for paired samples the *t* tests were used to analyze the differences in pre- and posttest results for social support.

Results

Delphi Questionnaire

All the experts (100%) stressed the importance of early diagnosis to detect a student's problems. The six experts who responded to the Delphi questionnaire agreed that lack of institutional support (83%) is a key factor in student dropout. This provides support for the theoretical foundation of the model, which holds that institutions bear responsibility for reducing dropout rates. 67% of the experts stressed the importance of group training.

Reliability

Table 6. Cronbach's α for Quantitative Variables

Variable	Social Support	Self-Realization	Personal Commitment	Institutional Support
Cronbach's α	0.86	0.87	0.87	0.89

Reliability above 0.6 was defined as satisfactory. All variables had reliability ratings greater than 0.6, so no items were removed from the questionnaire. The variable represents in Table 6:

Questionnaire Results

The quantitative analysis is based on four closed-ended questionnaires of 14 statements. Each questionnaire measured one of the following variables in table 7:

Table 7. Questionnaire Results per Item

Code	**A**				**B**				**C**				**D**	
Semester	**I**		**II**		**I**		**II**		**I**		**II**		**II**	
Item	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD	Ave	SD
1	4.47	1.18	5.38	1.05	5.87	1.15	6.13	0.89	4.49	1.16	5.78	1	6.11	0.85
2	4.6	1.14	5.53	1.12	5.5	0.84	6.02	1.03	4.91	1.22	6.02	1.03	6.09	1.03
3	4.42	1.12	5.38	1.09	3.85	1.3	5.91	1.12	4.62	1.3	6.38	0.81	6.39	0.8
4	3.82	1.28	5.6	0.89	4.8	1.19	6.07	0.86	4.87	1.22	6.07	0.86	6.09	0.86
5	3.49	1.2	5.49	0.97	5.17	1.23	6.13	0.81	4.58	1.18	6.27	0.69	6.26	0.68
6	3.67	1.22	5.53	1.04	3.8	1.45	6.2	0.94	4.8	1.1	6.2	0.94	6.22	0.94
7	4.56	1.06	5.49	0.97	3.7	1.47	5.64	1.05	4.87	1.12	6.11	0.86	6.15	0.87
8	4.44	1.03	5.33	1	5.43	1.17	6.18	0.86	4.71	1.12	6.18	0.86	6.17	0.85
9	4.67	1.02	5.47	1.04	5.39	1.24	6.29	0.82	4.64	1.45	6.29	0.82	6.3	0.81
10	4.47	1.1	5.47	1.04	5.43	1.33	5.82	0.98	4.22	1.2	5.82	0.98	6	0.97
11	4.69	1.1	5.38	1.01	5.43	1.09	5.98	0.94	4.96	1.3	5.98	0.94	6	0.94
12	4.44	1.1	5.56	0.94	4.8	1	6.36	0.74	4.64	1.13	6.36	0.74	6.37	0.74
13	4.29	1.07	5.67	0.88	3.28	1.13	6.07	0.75	4.62	1.37	6.13	0.69	6.15	0.7
14	3.09	1.22	5.76	0.74	3.54	1.38	6.24	0.68	5.02	1.27	6.24	0.68	6.22	0.7

The results of all four questionnaires were higher at the end of second semester in comparison with the results at the beginning of first semester and presented in table 8:

Table 8. Summary of Statistical Results

Code	**Questionnaire**	***t* test**	**Cronbach's**	**critical**	**First Semester I**		**End Semester II**	
		t	**α**	*t*	Average	Standard Deviation	Average	Standard Deviation
A	Social Support	13.47	0.86	1.68	4.37	1.23	5.49	1
B	Self-Realization	9.45	0.87	1.68	4.72	1.49	6.07	0.92
C	Personal Commitment	14.42	0.87	1.68	4.78	1.24	6.13	0.88
D	Institutional Support	9.36	0.89	1.68	---	---	6.18	0.85

According to the quantitative results, students' social support scores, self-realization scores, personal commitment scores, and institutional support scores were all higher after the intervention, compared with before. Additionally, the dropout rate declined significantly at both colleges. Therefore, all five quantitative hypotheses are supported.

Hypothesis 1

The first hypothesis stated, "Students' social support scores will be higher after the intervention, compared with preintervention social support scores." The critical *t* value (95% confidence) for social support is 1.68. The paired sample Student's *t* test revealed a *t* value of 13.47, which is above the critical *t* value. Therefore, Hypothesis 1 is *supported.*

Hypothesis 2

The second research hypothesis stated, "Students' self-realization scores will be higher after the intervention, compared with preintervention self-realization scores." The critical *t* value (95% confidence) for self-realization is 1.68. The paired sample Student's *t* test revealed a *t* value of 9.45, which is above the critical *t* value. Therefore, Hypothesis 2 is **supported**.

Hypothesis 3

The third research hypothesis stated, "Students' personal commitment scores will be higher after the intervention, compared with preintervention personal commitment scores." The critical *t* value (95% confidence) for personal commitment is 1.68. The paired sample Student's *t* test revealed a *t* value of 14.42, which is above the critical *t* value. Therefore, Hypothesis 3 is **supported**.

Hypothesis 4

The fourth hypothesis stated, "Students' institutional support scores will be higher after the intervention, compared with preintervention institutional support scores." The critical *t* value (95% confidence) for institutional support is 1.68. The one-sample Student's *t* test revealed a *t* value of 9.36, which is above the critical *t* value. Therefore, Hypothesis 4 is **supported**.

During the year, 25% of students made use of "open door" policy and reported on difficulties to official college factors, including reports on a desire to leave studies. Results revealed that such appeals were directed to several institutional employees during the year, according to following distribution: 5 to secretaries, 3 to lecturers, 5 to department head, 4 to the college principal. Figure 2 summarizes this distribution.

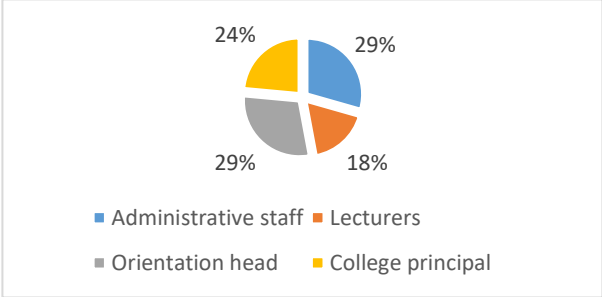


Figure 2. Distribution of appeals to college staff

Hypothesis 5

The fifth hypothesis stated, "The dropout rate at two colleges in Israel will be lower during the year of the intervention, compared with the previous year."The implementation of the dropout reduction model in two colleges in the school year of 2014–2015 led to a reduction in student dropout rate. Research support was found in the statistical findings obtained from the two colleges, upon comparing student dropout data with those of previous school year of 2013-2014. The dropout data for colleges A and B are summarized in Tables 9 and 10, respectively:

Table 9 .College A Dropout Rate, 2013–2014

Dropout Rate	**Dropouts**	**Number of students**	**2014-2015**
4.5%	1	22	First semester – Midterm
4.7%	1	21	Midterm - end of first semester
5%	1	20	End of first semester – second semester
0	0	19	Second semester - end of second semester
Dropout Rate	**Dropout**	**Number of students**	**2013-2014**
16.6%	6	36	First semester – Midterm
13.3%	4	30	Midterm - end of first semester
3.8%	1	26	End of first semester – second semester
4%	1	25	Second semester - end of second semester

Table 10. College B Dropout Rate, 2013–2014

Dropout Rate	Dropouts	Number of students	2014-2015
5.3%	1	19	First semester – Midterm
0	0	18	Midterm - end of first semester
0	0	18	End of first semester – second semester
0	0	18	Second semester - end of second semester
Dropout Rate	**Dropouts**	**Number of students**	**2013-2014**
16.6%	4	24	First semester – Midterm
15%	3	20	Midterm - end of first semester
11.7%	2	17	End of first semester – second semester
6.6%	1	15	Second semester - end of second semester

The findings indicate a significant improvement in the dropout rate. In college A and in college B dropout percentage was reduced. During the year, four students dropped out, so that at the end of second semester, 37 students participated in the closed-ended questionnaires (male, *n* = 25; female, *n* = 12). The age range of the second-semester participants was 22–45. Figure 3 presents the population distribution according to gender at the end of second semester:

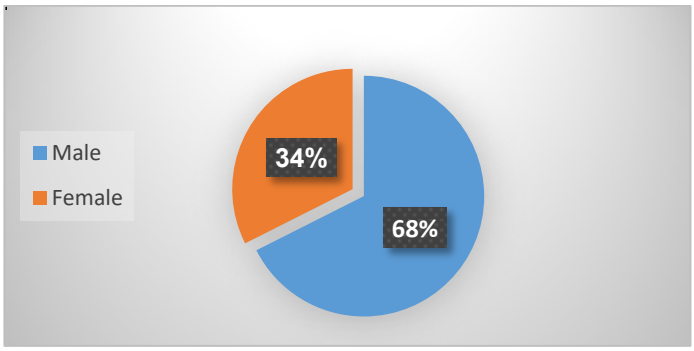


Figure 3. Gender distribution at the end of the second semester.

Qualitative themes

The thematic coding analysis of interview transcripts revealed four themes related to (a) perceptual change, (b) change in interpersonal communication, (c) behavioural change, and (d) social change. Each of these themes had between two and four subthemes. The themes and subthemes are presented in Figure 4.

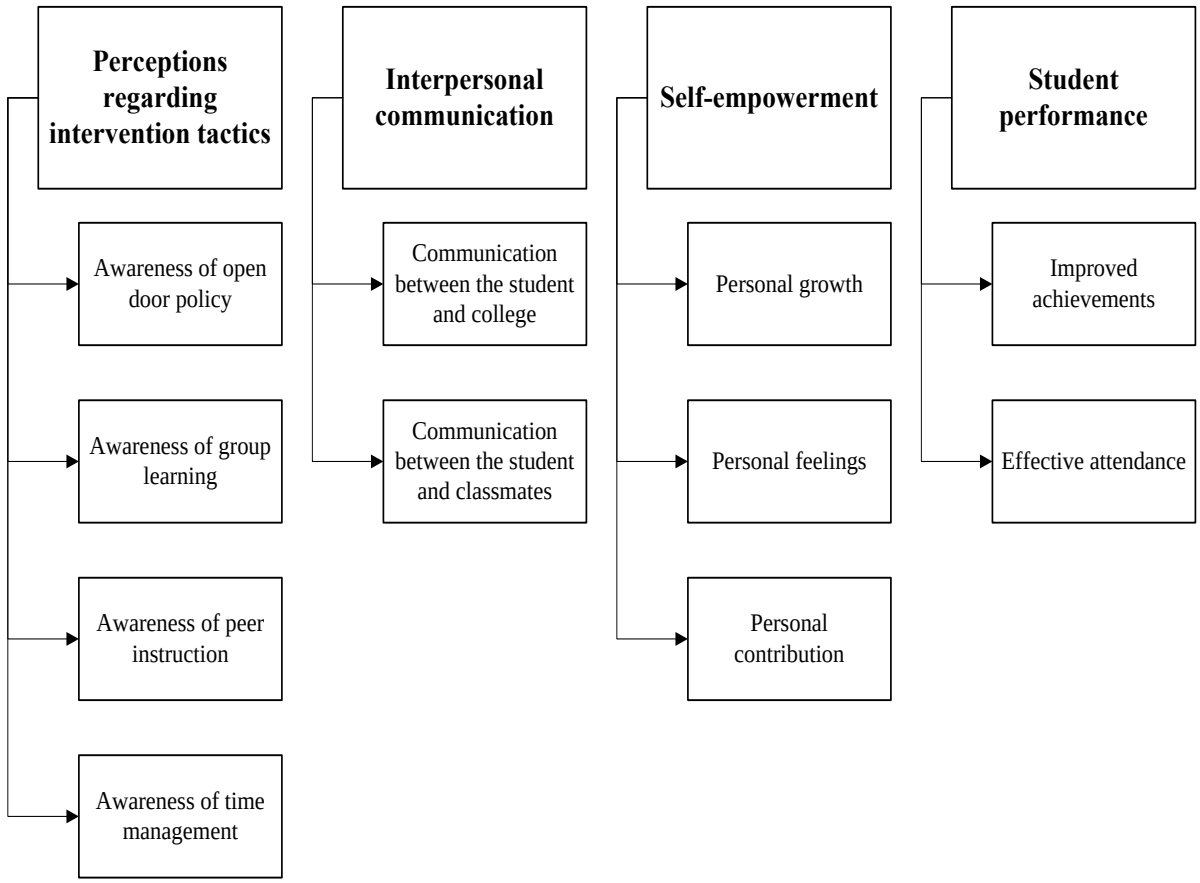


Figure 4. Qualitative themes and subthemes.

The qualitative analysis of preintervention interview transcripts, postintervention interview transcripts, and the researcher's log yielded four themes related to the effect of the intervention. The intervention made students more aware of the open door policy, group learning, peer instruction, and time management, along with the importance of these tactics.

Students expressed improvements in interpersonal communication, both with one another and with the college. Students were more self-empowered with respect to personal growth, personal feelings, and personal contributions. Student performance improved with respect to both grades and attendance. These qualitative findings were supported by the quantitative results of related items on the four questionnaires.

Discussion and Conclusion

The purpose of this mixed-method study was to examine the dropout phenomenon in Israeli practical engineering colleges, in first year evening courses, and to propose an innovative model that might reduce dropout with minimal costs. The model is based on three key values (institutional support, social support, and personal commitment) which have been supported and validated by six experts using Delphi method. The intervention on budget focuses on human factors in the system, including the college staff (management, lecturers, and administrative staff) and students (first year class). This study shows that an emphasis on reasons for persistence may be more appropriate at the social support and institutional support than a focus on reasons for dropout.

At the end of the year, about 91% of participants claimed that the open door policy works and even saved students from dropping out. This strongly supports the work of scholars who have argued in favour of open door policies (Bergman, 2016; Gabbard and Mupinga, 2013). Although open door policies might be conceived as tools for preventing dropout and thus benefiting the institution in a negative manner, some have argued that open door policies also have positive benefits, including students in a social network and support system that benefits them throughout their academic careers (Shah and Whannell, 2016).

At the beginning, about 58% of the interviewees were sceptical regarding the chance of approaching college staff on the subject of leaving studies. However, at the end of the year, they believed that the open door policy worked. The students approached college staff and reported on difficulties and distresses, showing much more self-confidence and awareness of their difficulties.

About 66% of participants saw social benefits inherent in group learning. About 83% of the participants saw a social contribution to peer instruction. This supports the work of Noroge et al. (2013), who found that small groups are beneficial for creating a sense of social involvement and belonging in institutional settings. In addition, Jenkins et al. (2013) showed that students at-risk of dropping at out had less social support than those with less risk.

According to findings at the end of the year, social involvement amongst students and between students and college staff was high, and expressed in various ways. This supports the theoretical work of Bask and Salmela-Aro (2013), who argued that student dropout is a process in which students become increasingly disaffected and alienated from higher education.

Participants sensed various changes that had taken place in them and they emphasized contribution of the model to their lives, stressing the improvement in self-image and the rise in self-confidence. They repeatedly claimed that the Dropout Prevention Model was a tool that they implemented at home, work, in society, and in studies, where they operated in cooperation with their friends and with self-confidence more than in the past.

This supports the work of scholars who have found that student disempowerment and feelings of dissatisfaction are the root cause of dropout (e.g., Babinski et al., 2016; Beauvais et al., 2014). Through the intervention, this study was able to empower students and enable them to improve their self-image and feelings of satisfaction in their personal and professional lives, leading to increased overall satisfaction and retention.

The results of the present study show that the intervention based on the dropout reduction model led to a significant decrease in the dropout rate among first-year students in evening engineering courses at two Israeli colleges. Therefore, the researchers have concluded that the intervention was effective in the setting investigated here at reducing dropout through improving social support and institutional support. Further study will be required to confirm this result in other settings. Future articles will deal with other dimensions of the dropout reduction model.

Although this research was carefully prepared, we are still aware of its limitations and shortcomings.

First, the research was conducted in the Department of Industry and Management in **two** practical engineering colleges in **two** semesters. Two of the Israeli colleges is not enough for the researchers to observe. It would be better if it was done in more colleges and in a longer period.

Second, the population of the experimental group is small, only 41 students, and might not represent the majority of the students of the engineering colleges, let alone the students of colleges in general.

In addition, since the assessment of the pretest and post test was conducted by the two authors themselves, it is unavoidable that in this study, certain degree of subjectivity can be found. In fact, it would have been sort of objective if it had been decided by more examiners.

References

Aguiar, E., Chawla, N. V., Brockman, J., Ambrose, G. A., & Goodrich, V. (2014, March) Engagement vs performance: using electronic portfolios to predict first semester engineering student retention. In *Proceedings of the Fourth International Conference on Learning Analytics And Knowledge* (pp. 103-112). ACM. doi:10.1145/2567574.2567583

Arzu , K. L. (2012). *High school dropouts in Belize: A grid and group explanation.* Unpublished Doctoral Dissertation. Retrieved from http://hdl.handle.net/11244/7200

Ayalon, H., & Mcdossi, O. (2016). First-generation college students in an expanded and diversified higher education system: The case of Israel. In *Socioeconomic Inequality in Israel* (pp. 75-96). Palgrave Macmillan US. doi:10.1057/9781137544810_5

Bask, M., & Salmela-Aro, K. (2013). Burned out to drop out: Exploring the relationship between school burnout and school dropout. *European Journal of Psychology of Education*, *28*(2), 511-528. doi:10.1007/s10212-012-0126-5

Bergman, M. (2016). From stopout to scholar: Pathways to Graduation through Adult Degree completion programs. *International Journal of Information Communication Technologies and Human Development*, *8*(4), 1-12. doi:10.4018/IJICTHD.2016100101

Bonett, D. G., & Wright, T. A. (2015). Cronbach's alpha reliability: Interval estimation, hypothesis testing, and sample size planning. *Journal of Organizational Behavior, 36*(1), 3-15. doi:10.1002/job.1960

Braxton, J. M., Doyle, W. R., Hartley III, H. V., Hirschy, A. S., Jones, W. A., & McLendon, M. K. (2013). *Rethinking college student retention*. Hoboken, NJ: John Wiley & Sons.

Brown, G. A., Bull, J., & Pendlebury, M. (2013). *Assessing student learning in higher education*. New York, NY: Routledge.

Diamond, I. R., Grant, R. C., Feldman, B. M., Pencharz, P. B., Ling, S. C., Moore, A. M., & Wales, P. W. (2014). Defining consensus: a systematic review recommends methodologic criteria for reporting of Delphi studies. *Journal of Clinical Epidemiology, 67*(4), 401-409. doi:10.1016/j.jclinepi.2013.12.002

Feniger, Y., & Ayalon, H. (2016). English as a gatekeeper: Inequality between Jews and Arabs in access to higher education in Israel. *International Journal of Educational Research*, *76*, 104-111. doi:10.1016/j.ijer.2015.04.003

Fichten, C. S., Heiman, T., Jorgensen, M., Nguyen, M. N., Havel, A., King, L., ... & Amsel, R. (2016). Theory of planned behavior predicts graduation intentions of Canadian and Israeli postsecondary students with and without learning disabilities/attention deficit hyperactivity disorder. *International Journal of Higher Education*, *5*(1), p. 208. doi:10.5430/ijhe.v5n1p208

Freeman, J., & Simonsen, B. (2015). Examining the impact of policy and practice interventions on high school dropout and school completion rates: A systematic review of the literature. *Review of Educational Research*, *85*(2), 205-248.

Gabbard, A., & Mupinga, D. M. (2013). Balancing open access with academic standards: implications for community college faculty. *Community College Journal of Research and Practice*, *37*(5), 374-381. doi:10.1080/10668921003609160

Gray, R., Vitak, J., Easton, E. W., & Ellison, N. B. (2013). Examining social adjustment to college in the age of social media: Factors influencing successful transitions and persistence. *Computers & Education*, *67*, 193-207. doi:10.1016/j.compedu.2013.02.021

Jenkins-Guarnieri, M. A., Horne, M. M., Wallis, A. L., Rings, J. A., & Vaughan, A. L. (2015). Quantitative evaluation of a first year seminar program relationships to persistence and academic success. *Journal of College Student Retention: Research, Theory & Practice*, *16*(4), 593-606.

Kalsbeek, D. H., & Zucker, B. (2013). Reframing retention strategy: A focus on profile. *New Directions for Higher Education*, *2013*(161), 15-25. doi:10.1002/he.20042

Lindsay, R., & Williams, D. (2015). *Student Integration and Motivation: Academic Integration, Social Integration, Student Motivation and Retention*. Unpublished doctoral dissertation.

Murnane, R. J., & Ganimian, A. (2014). Improving educational outcomes in developing countries: Lessons from rigorous evaluations. *NBER Working Paper*, (w20284).

Njoroge, M. M., Wang'eri, T., & Gichure, C. (2016). Role of student faculty interaction in attrition among students in private universities in Nairobi county, Kenya. *Journal of Emerging Trends in Educational Research and Policy Studies*, *7*(1), 49-59.

Pearl, J., Glymour, M., & Jewell, N. P. (2016). *Causal inference in statistics: A primer*. John Wiley & Sons.

Quinn, J., (2013). Drop-out and Completion in Higher Education in Europe among students from under-represented groups. Report for the EU Commission.

Rissanen, I., Tirri, K., & Kuusisto, E. (2015). Finnish teachers' attitudes about Muslim students and Muslim student integration. *Journal for the Scientific Study of Religion*, *54*(2), 277-290. doi:10.1111/jssr.12190

Schwartz, H., & Hain, R. (2014). Psychological treatment as part of dropout prevention: An Israeli program. *Journal of College Student Psychotherapy*, *28*(3), 218-228. doi:10.1080/87568225.2014.915171

Shah, M., & Whannell, R. (2016). Open access enabling courses: risking academic standards or meeting equity aspirations. *Perspectives: Policy and Practice in Higher Education*, 1-12. doi:10.1080/13603108.2016.1203370

Shah, M., & Whannell, R. (2016). Open access enabling courses: risking academic standards or meeting equity aspirations. *Perspectives: Policy and Practice in Higher Education*, 1-12. doi:10.1080/13603108.2016.1203370

Shields, R. (2016). Reconsidering regionalisation in global higher education: student mobility spaces of the European Higher Education Area. *Compare: A Journal of Comparative and International Education*, *46*(1), 5-23. doi:10.1080/03057925.2014.884348

Wagner, J. M. (2015). Hispanic minority college students at selective colleges: What matters with degree completion?. *Journal of Hispanic Higher Education*, 1538192714568807. doi:10.1177/1538192714568807