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PERCEPTIONS OF SENIOR ACADEMIC STAFF IN COLLEGES OF EDUCATION REGARDING INTEGRATION OF TECHNOLOGY IN ONLINE LEARNING

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ABSTRACT

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| Aim/Purpose | The goal of the study was to examine the perceptions of senior academic staff who also serve as policymakers in Israeli colleges of education, regarding the integration of technology in teacher education, and the shift to online learning during the Covid-19 pandemic. There is little research on this issue and consequently, the aim of the present study is to fill this lacuna. |
| Background | In Israel, senior academic staff in colleges of education play a particularly important role in formulating institutional policies and vision regarding the training of preservice teachers. They fulfil administrative functions, teach, and engage in research as part of their academic position. During the Covid-19, they led the shift to online learning. However, there is little research on their perceptions of technology integration in teacher education in general, and during the Covid-19, in particular. |
| Methodology | This qualitative study conducted semi-structured interviews with 25 senior academic staff from 13 academic colleges of education in Israel. |
| Contribution | The study has practical implications for the implementation of technology in teacher education, suggesting the importance of establishing open discourse and collaboration between college stakeholders to enable enactment of a vision for equity-that allows programs to move swiftly from crisis-management to innovation and transformation during the Covid-19 pandemic. |
| Findings | The findings obtained from content analysis of the interviews reveals a central concept: "On both sides of the divide", and points of intersection in the perceptions of the senior academic staff. The central concept encompassed three |

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| | themes: (1) centralization - between top-down and bottom-up policies, (2) between innovation and conservation, and (3) between crisis and growth. The findings indicate that in times of crisis, the polarity surrounding issues essential to the organisation's operation is reduced, and a blend is formed to create a new reality in which the various dichotomies merge. |
| Recommendations for Practitioners | The study has practical implications for the scope of discussions on the implementation of technology in teacher education (formulating a vision and policies, and their translation into practice), suggesting that such discussions should consider the perceptions of policymakers. |
| Recommendations for Researchers | The findings reflect the challenges faced by senior academic staff at colleges of education that reflect the ongoing attempts to negotiate and reconcile different concerns. |
| Impact on Society | The findings have implications for colleges of education that are responsible for pre-service teachers' teaching practices. |
| Future Research | An enacted vision for equity-based educator preparation that allows programs to move swiftly from crisis-management to innovation and transformation. Future research might reveal a more complete picture by investigating a broader spectrum of stakeholders both in Israel and elsewhere. Hence, future research should examine the power relations between senior college staff and external bodies such as the Higher Education Council (which determines higher education policies in Israel). |
| Keywords | Covid-19 pandemic, senior academic staff; the new institutional theory, online learning, colleges of education |

INTRODUCTION

With the outbreak of the Covid-19 pandemic, most countries had to close their gates completely or partially, which significantly affected multiple aspects in the education sector (Karakose, Ozdemir, et al., 2022). Since schools and universities had to close, teacher educators and students had to adapt to online learning (Crawford et al., 2020; Ellis et al., 2020; Karakose, Yirci, & Papadakis, 2022; La Velle et al., 2020). Teacher education was one of the higher education sectors most severely challenged by the rapid shift to online learning, since it was necessary to create appropriate learning environments for pre-service teachers doing their teaching practice (Carrillo & Flores, 2020).

The shift to online learning in the colleges of education was massive and disruptive, moving all existing courses to online learning in a matter of days. A complete online course requires an elaborate lesson plan design, teaching materials such as audio and video content, as well as technology support teams (Donitsa-Schmidt & Ramot, 2020; Fullan et al., 2020). However, due to the sudden outbreak of the pandemic, most faculty members had to face these challenges when lacking online teaching experience, prior preparation, or support from educational technology teams (Bao, 2020; Carrillo & Flores, 2020). More specifically, the pandemic led to unprecedented challenges for senior academic staff in the colleges of education, who serve as policymakers. During Covid-19, they played an important role in leading the shift to online learning within their colleges and in addressing the challenges.

In Israel, senior academic staff at colleges of education fulfil administrative functions teach and engage in research as part of their academic position. They play a particularly important role in influencing their colleagues, since they are involved in formulating institutional policies and vision. Thus, during the Covid-19, they played a significant role in leading changes in teacher training. Almost overnight, they had to create policies and work practices (Darling-Hammond & Hyler, 2020; Teräs et al., 2020). They were expected to maintain a dynamic leadership in these uncharted times and to create a

vision to move the organizations' initiatives forward, while allowing room for innovation and creativity (Quezada et al., 2020).

The digital transformation of education has added a new level of responsibility to the senior academic staff in teacher education, e.g., addressing any confidence and competence issues in using digital technologies in teaching and learning effectively (Flores & Swennen, 2020; Teräs et al., 2020). In other words, it was essential to go beyond emergency online practices and develop and implement quality online teaching-learning resulting from careful instructional design and planning (Hodges et al., 2020). For example, one of the first actions needed was to enable rapid personal and professional adjustments among faculty and students to understand how to use online platforms (La Velle et al., 2020).

The need to rapidly adapt to new contexts of online learning has revealed how teacher education institutions encountered and experienced the challenges and opportunities in such unexpected circumstances (e.g., Flores & Gago, 2020; Flores & Swennen, 2020; Nasri et al., 2020). In this context, senior academic staff in Israel play a particularly important role in formulating institutional policies and vision regarding the training of preservice teachers. During the Covid-19, they had to lead the shift to online learning within their colleges. However, there is little research on their perceptions regarding the integration of technology in teacher education in general, and during the pandemic, in particular. This study may thus shed light on how they contended with the imposed changes and integrated technologies in teacher education. We begin with a review on the integration of digital technologies in teacher education, continue with reference to new institutional theory, then describe the research methodology, and conclude with a discussion and practical implications.

LITERATURE REVIEW

INTEGRATION OF DIGITAL TECHNOLOGIES IN TEACHER EDUCATION

The digital revolution and the social, economic, and technological changes of the twenty-first century present innovative teaching and learning opportunities. This challenges the education system and teacher education to prepare students and teachers for the twenty-first century, while implementing innovation and change in teaching-learning (Collins & Halverson, 2018; Mioduser et al., 2003; Serdyukov, 2017). Therefore, there have been repeated demands in recent decades, long before the Covid-19, to introduce changes and reforms in teacher education, and thereby raise student achievement (Darling-Hammond & Bransford, 2005; Fullan, 2021). The demands for change focus on several areas, e.g., structure and duration of teacher education, content, frameworks, practice, integration of technology, etc. (Cochran-Smith, 2021; Darling-Hammond, 2010).

In the past decade, integration of innovative digital technologies in teacher education has been a top priority. For example, the Global Movement for Education Reform (GERM) (Sahlberg et al., 2017) positions information and communication technologies (ICT) as forces for contemporary educational change, shifting from a teacher-centered approach to student-centered pedagogies. This is part of the view that ICT holds great promise for transforming our teaching, thinking, and learning (Halverson & Smith, 2009; Núñez-Canal et al., 2022; Shonfeld & Goldstein, 2014). At the same time, the accelerated introduction of innovative technologies into education systems everywhere has created a need to implement innovative techno-pedagogies as part of the process of inculcating pre-service teachers with twenty-first century skills in the hope of streamlining this process (Karakose et al., 2021; Law et al., 2008; Mohammed, 2022).

Therefore, higher education institutions and teacher training colleges are increasing investments in online learning, which requires faculty to progressively utilize technology to support teaching and learning (Outlaw et al., 2017). Many studies have indicated the challenges and barriers that threaten effective implementation of technology in teacher education institutions (Shonfeld & Goldstein,

2014). Studies address the pedagogical beliefs and perceptions of teacher educators as well as insufficient technical, pedagogical, and administrative support as main barriers (Avidov-Ungar & Forkosh-Baruch, 2018; Reid, 2014; Surry et al., 2012). Other studies focus on the policymakers, indicating the lack of a clear vision, leadership, critical mass, incentive, and faculty participation as key barriers to technology implementation. Many of these barriers intertwine and overlap, presenting further complexity and challenges for administrators and policymakers in developing effective policies (Reid, 2014). These barriers may arise when policymakers do not understand the complexities of the technologies, or the time needed to master them. Furthermore, policymakers fail to consider faculty needs and conduct no dialogue with the faculty staff (Kopcha et al., 2016; Reid, 2014). Consequently, pressure is exerted on academic teacher education institutions, as well as on senior academic staff to develop effective policies in teacher education suited to the changing reality (Selwyn, 2010; Teräs et al., 2020).

This study focused on senior academic staff at Israeli colleges of education. As mentioned, they are involved in administration, teaching and research. Their positions include president/college head, dean/head of school, head of a learning technology department and head of unit and coordinator or leader within the college. Their responsibility encompasses three dimensions. The first involves formulating institutional policies, vision, and mission, focusing on student learning and academic results. The second dimension is responsibility for coordinating and monitoring instruction and curricula. The third dimension involves helping to developing a positive school learning climate by creating and sustaining a culture of high standards and expectations for staff and students (Hallinger et al., 2015; Shaked, 2021). They are also considered a significant factor in leading and implementing technological innovation. To survive, they are required to navigate between technical and symbolic expectations, which are often conflicting. However, teacher education institutions are sometimes perceived as resistant to change (Hess & McShane, 2014). Institutional conservatism preserves the field's stability, making it difficult to integrate and implement innovation and for it to persevere over time. This complexity is described by the new institutional theory.

THE EDUCATION FIELD IN LIGHT OF THE NEW INSTITUTIONAL THEORY

In the 1990s, the new institutional theory began attracting growing interest among education researchers (Hoy & Miskel, 2001; Meyer & Rowan, 1977). Since then, it has been widely used to describe the nature of various organizations in the field of education, from primary schools (Hallett, 2010), to higher education institutions (Oliver-Lumerman & Drori, 2021).

New institutional theory explains the behaviour of organizations in their environment and examines the interactions between them and how these interactions affect the organisation's structure, characteristics, and patterns of behaviour (Hoy & Miskel, 2001; Meyer & Rowan, 1977). "Organizational field" is a key concept in institutional theory and refers to the environment in which the organization operates. Thus, for example, education is perceived as a sector based on society's core values (Meyer, 1992; Meyer et al., 2007; Meyer & Ramirez, 2012). Senior academic staff at colleges of education operate and lead changes in an institutional environment and are considered a particularly significant factor in leading and implementing technological innovation. To survive, they must navigate between technical and symbolic expectations, which are often conflicting.

To address this conflict, many education systems adopt the "Islands of innovation" model as the preferred strategy for implementing technological innovation. Islands of innovation can be created in two ways: (1) Top-down policy imposed by the decision makers. This leads to minimal stakeholder involvement in the process, and implementation of innovation in accordance with guidelines set from above; (2) Bottom-up policy – a spontaneous process driven by local groups of stakeholders (e.g., teachers, principals, educational entrepreneurs) that address existing needs. Studies show that in many cases, local islands of innovation fail to permeate the system as a whole and peter out before they can bring about change mainly because of the "buffering effect" (Avidov-Ungar & Eshet-Alkay, 2014). The implementation of innovation in "islands" separate from the rest of the organization's

activities renders it marginal and ineffective (Avidov-Ungar, 2010; Cook et al., 2007). Fullan (1994) argues that successful change requires a coordinated combination of top-down policy and bottom-up initiatives. That is, initiatives for change originate from the educational institution, but how the change is implemented is developed jointly in a process of dialogic thinking, taking into consideration the institution's unique educational needs and expert knowledge.

Long before the Covid-19 pandemic, researchers noted the discrepancy between what education technology promises and the improvements it delivers (Cuban, 2004; Mertala, 2020; Selwyn, 2010). Use of digital technologies in classrooms is still a long way from bringing about systemic change, and rather promotes islands of innovation (Avidov-Ungar, 2010; Eyal & Yosef-Hassidim, 2012). Thus, many technologies implementation projects in education systems fail or lead to disappointment in their results (Cuban et al., 2001; Hattie, 2008).

The complexity of implementing innovation and contending with change in an organizational environment and the field of education (Barrett & Hinings, 2015) has been even more pronounced during the Covid-19 pandemic. The aim of the present study is to examine the perceptions of senior academic staff in Israeli colleges of education in the context of the Covid-19 pandemic. Specifically, it provides insights into how the staff contend with challenges arising from an imposed change and uncertainty, and the sudden shift to online teaching-learning. The study sheds light on their views on integrating technology into teacher education in general, and during the Covid-19 in particular. During that period they played a significant part in leading the change the shift to online learning within their colleges. However, there is a paucity of research on the perceptions of senior academic staff regarding the integration of technology in teacher education in general, and during the pandemic in particular, as part of training pre-service teachers.

METHODOLOGY

RESEARCH METHOD

The present qualitative study (Gibton, 2015) is based on an interpretive-constructive paradigm. We conducted semi-structured interviews with senior academic staff who design policy in colleges of education in Israel (based on publicly available official data) (Council for Higher Education, n.d.). The sample represents 68% of all colleges of education in Israel providing instruction in Hebrew. The study conducts an in-depth examination of the perceptions of these colleges regarding technology in general, and during the Covid-19 in particular.

PARTICIPANTS

The participants in the study were 25 senior academic staff from 13 academic colleges of education in Israel. The case of Israel is interesting because in recent decades, teacher training in Israel as undergone a revolution caused by the expansion and diversification in a series of trailblazing reforms (Menahem, 2008), involving the academization of teacher education in Israel (Hofman & Niederland, 2012). Thus, since the mid-1980s, all teachers are required to attend either an academic college of education or a university to acquire a bachelor's degree and a teaching license.

In Israel, there are 21 academic institutions - universities, and colleges of education - offering four-year B.Ed. degrees. 90% of the teacher education takes place in the colleges of education (Hofman & Niederland, 2012; Shaked, 2021) rather than the universities. In terms of social justice, inequality in the chance of attending the college of education in Israel is similar to that in the United States (Ayalon et al., 2008). Despite substantial differences between the colleges of education, in all of them the curriculum has three main components: disciplinary studies, pedagogical studies, and practical experience. Although Israel's education system is relatively small, it includes a wide range of colleges of education in terms of socioeconomic status, achievements, government funding, and local education

authority involvement, and can therefore serve as a test case for other education systems around the world.

The participants of this study are senior academic staff at colleges of education in Israel. They are involved in the formulation of institutional policy and during the pandemic they played a significant role in leading the shift to online learning within their colleges. All the participants fulfil administrative functions in their colleges of education and teach in the colleges of education as lecturers and research as part of their academic position.

The academic positions fulfilled by the participants are as follows: president/college head (n=3); dean/head of the school of education (n=5); head of learning technology department (n=2); head of the unit responsible for promoting innovation in teaching and learning (n=5); and coordinator or leader within the teacher education department (n=10). Most of the participants were 50-60 years of age (n=16), and the remainder 33-49 (n=9). The seniority of their position in colleges of education was 1-15 years (M = 3.78, SD = 3.17). Two participants were professors, 20 held a PhD, and 3 held a master's degree. Most of the participants (n=21) were women, which is consistent with women's greater involvement in teaching in Israel.

RESEARCH TOOL

Each senior academic staff participated in a semi-structured in-depth interview lasting approximately one hour (see the Appendix). Through semi-structured interviews (Hammersley & Atkinson, 2019), the researchers were able to get as close as possible to the interviewee's perspective of their experiences, and to understand the meanings attributed to them.

We interviewed 1-3 participants from each college. The interviews attempted to clarify perceptions regarding the integration of technology in teacher education and the shift to online learning during the pandemic, as voiced by senior academic staff also serving as education college policymakers.

RESEARCH PROCEDURE

The research began only after approval was received from the institutional ethics committee. The websites of the various colleges were examined to identify senior academic staff as potential interviewees. They were contacted by email, with an attached informed consent form, asking them to participate in the study. If the response was positive, an interview was scheduled, and the interviewee signed an informed consent form. At the end of the interview, the interviewee was asked to recommend another senior staff member, thus increasing the number of participants using the snowball method (Noy, 2008). Academic staff who did not respond received a second email, and an interview was scheduled for those who responded positively. All the interviews were conducted between August and October 2020 via Zoom and were recorded and transcribed in Hebrew. For ethical reasons, the recordings were erased after their transcription was completed. The period between August and October 2020 was characterized by a new wave of rising numbers of people infected by the virus, culminating on 18 September 2020 with a 21-day countrywide lockdown.

DATA ANALYSIS

The interview transcriptions were thematically analyzed (Shkedi, 2004), which involved extracting recurring motifs from the interviews; interpreting and conceptualizing the emerging themes; tracing and examining repeated themes; and coding them into categories of relevance to the research questions (Stuckey, 2015). More specifically, the data analysis was a four-stage process — condensing, coding, categorizing, and theorizing. First, the necessary sorting and condensing were performed by reading the interview transcripts and seeking out the utterances relevant to the perceptions regarding the integration of technology in teacher training in general, and of the shift to online learning during the pandemic. In the second stage – coding – each segment of data (utterance) was coded according to the aspect it represented, examining the perspectives raised by the participants. The dimensions

that emerged were intertwined into a central concept, entitled “on both sides of the divide”, meaning there were two opposing points of view. This concept was used to create a thematic framework expressing the idea of contrast, duality, and polarity that runs like a leitmotif between the themes. In the next step, we defined category themes around conflict, duality, and polarity. Thus, three themes became categories that relate to the central concept: 1) "Between bottom-up and top-down policies"; 2) "Between innovation and conservation", and 3) "Between crisis and growth". The themes were combined to create a “narrative sequence”, with one theme leading to another in terms of content. Thus, for example, the theme “between innovation and conservation” corresponds with the next theme, “between crisis and growth”, since they both express a dialectic narrative between two opposing perceptions. Finally, the theory phase sought to conceptually structure the derived themes and explore how they are related to and influence each other from one central idea and concept (Miles et al., 2014).

The present study is part of a broader study examining remote, online learning education of pre-service teachers during the Covid-19 pandemic.

RESULTS

Analysis of the results indicates a number of dimensions: perceptions of senior academic staff regarding the integration of digital technologies in teacher training and contending with the Covid-19 pandemic and its implications for teaching and learning at education colleges. These dimensions are intertwined into a central concept: “on both sides of the divide”. The dictionary definition of the expression is “two opposing perspectives” and is borrowed here to create a thematic framework expressing the notion of contrast and contradiction between opposing perceptions, and points of intersection between them. This concept expresses the central idea around which additional three themes are organized, including: 1) “between bottom-up and top-down policies”; 2) “between innovation and conservation”, and 3) “between crisis and growth”, as presented in Table 1.

Table 1: The three themes relating to the central concept “on both sides of the divide”

| Themes | Description |
|---|--|
| Between bottom-up and top-down policies | <p>Top-Down Policies</p> <p>Several interviewees describe policies dictated top-down (11/25).</p> <p>Bottom-Up Policies – Room for Academic Freedom</p> <p>Some interviewees emphasize the need to maintain 'academic freedom' that allows lecturers to independently choose how to teach regarding technology integration (10/25).</p> <p>Combination of Top-Down and Bottom-Up Policies</p> <p>There is an intense need to find the golden mean between top-down policies and bottom-up initiatives (4/25).</p> |
| Between innovation and conservation | <p>Innovation</p> <p>Most interviewees describe the college’s preparations for implementing policies and a vision of integrating technology for innovation in teaching and learning. (19/25).</p> <p>Conservation</p> <p>Some interviewees describe a process of conservation and institutional entrenchment (6/25).</p> |

| Themes | Description |
|---------------------------|--|
| Between crisis and growth | <p>Growth</p> <p>Most interviewees perceive the pandemic as an opportunity for growth (19/25).</p> <p>Crisis</p> <p>The pandemic is perceived as a deep crisis and some interviewees focused on the crisis and the difficulties that emerged in its wake (6/25).</p> |

BETWEEN BOTTOM-UP AND TOP-DOWN POLICIES

The senior academic staff describe implementation of policies and vision associated with integrating digital technologies in teaching and learning in different ways, policies imposed from the top-down (11/25), the desire to give the faculty academic freedom to introduce bottom-up initiatives (10/25) and the need to find the golden mean between the two even more intensely (4/25).

Top-down policies

Some senior academic staff describe policies dictated to the faculty from the top-down. Interviewee 2 from college 13 leverages his position as president, and describes how he uses his authority to outline a policy for integrating technology and innovation in teaching:

It's an order of priority that pushes forward a lot. I feel that whoever outlines a policy has an opportunity to make an impact. If I'm heading the system, then I compel the lecturers to participate in advanced training... It's implementing all kinds of tools I want. (Interviewee 2, college 13)

Sometimes, what the management wants encounters opposition as one interviewee describes:

One of our difficulties is basically that there's a disconnect between the way management perceives and decides for us on the whole issue of technology, and the internal forces coming from the bottom that try to move and drive processes. There's a gap. It's not working. (Interviewee 1, college 8).

One interviewee argues that there is room to implement a 'free hand policy' for academic staff and less 'imposing guidelines' (Interviewee 2, college 3).

Bottom-up policies – Room for academic freedom

Some interviewees emphasize the need to maintain 'academic freedom' that allows lecturers to independently choose how to integrate technology into their teaching. This is the lifeblood of academia: '...academic freedom that lecturers can teach how they want, and when you tell them to teach in a particular way, it's as if you're violating their autonomy' (Interviewee 2, college 6).

One interviewee explained how the college operates vis-à-vis the faculty: 'I don't compel them to use [technology], but it is a kind of policy, we give tools, we encourage our lecturers to participate in these workshops... especially during the pandemic' (Interviewee 1, college 9).

The Covid-19 pandemic highlighted the need for techno-pedagogical training for the shift to online teaching, but along with the urgent need and imperative of the day, it is important to maintain faculty autonomy: 'We give space to develop things, and we give them freedom to create' (Interviewee 1, college 11).

Combination of top-down and bottom-up policies

Some senior academic staff emphasize the need to combine top-down and bottom-up policies, i.e., formulating common goals for cooperation between faculty and management. This is a kind of 'coincidence of wants': on the one hand, a desire to implement college policy involving digital technologies in teacher training, especially during the pandemic and the shift to online learning, and preserving academic independence and freedom on the other:

There are three ways of looking at this connection between the management's vision and the actual implementation by the faculty. One is how management imposes its policy on the faculty and says, "integrate technology", "do this", "do that" ...Perhaps the ideal place is when management says, "do what you want", and the faculty says, "we want technology, we want technology". And there's a place where it even makes a bit more sense, where everyone gets a little closer. That is, the college says, "integrate technology, it's very important, this is the future generation", and the faculty also says, "we understand that it's important, here, give us more tools, give us help, we really want this. (Interviewee 1, College 7).

Interviewee 2 from college 1 describes the 'coincidence of wants'. According to her, Covid-19 narrowed the gap between the college's policy and the faculty's willingness and need for professional development and implementation of technology. That is, 'It [the change] can't take place in a bubble, it has to be introduced like a braid that you weave' (Interviewee 2, college 1). The dialogue between dictated policy and the need to preserve academic freedom is also expressed in the opposing forces ranging from innovation to conservation.

BETWEEN INNOVATION AND CONSERVATION

Most of the senior academic staff describe the winds of change of the digital age, including the aspiration for change and integration of technological innovation (19/25), which affects academic education. However, some interviewees describe a process of conservation and institutional entrenchment (6/25). One describes the winds of change, using the phrase 'the train left the station a long time ago' to describe the necessity for change: 'Tomorrow, in five or ten years, you'll have robots that walk and talk, and then what will the teacher do? ...Worlds of virtual reality, whether we want to or not, that's where we're headed' (Interviewee 2, college 11).

Innovation

Most of the senior academic staff describe the college's preparations for implementing policies and a vision of integrating technology for innovation in teaching and learning. They elaborate on the resources allocated to these preparations, particularly during the Covid-19 pandemic, including budget allocation, recruitment and training, establishing dedicated units, purchasing and implementing technology, and ongoing professional training. Below is a list of the activities invested in the field:

Establishing digital innovation units and spaces. Participants describe various units that have been established: 'We have various virtual spaces through the innovation center: a future space with future technologies and an innovation center space.' (Interviewee 2, college 10).

Acquisition, implementation, and integration of innovative technologies. One participant describes the technologies they have: 'I have robots, video, 360 cameras, Virtual Reality. We have means and support. We used that money to establish four future learning spaces with innovative digital technology' (Interviewee 2, college 7).

Professional development, training, and seminars. During the Covid-19, extensive efforts were made to assist the faculty in handling the shift to online learning using professional courses via Zoom such as: how to use Zoom, incorporating digital tools within online learning, testing and assessment in online learning, etc. Faculty were to continue to teach their course online using Zoom as a main

platform for lectures and activities. Interviewee 2, college 7 mentioned that using Zoom was a constraint because it was not designed for academic and learning purposes. It is worth noting that none of the senior academic staff related to the decisions they made when choosing Zoom as the main platform for teaching and learning.

The willingness of academic staff to participate in those courses has increased: 'If I once had fifteen lecturers, today... there's twice as much response' (Interviewee 2, college 9).

However, the shift to online learning has not always led to changes in teaching methods and integration of technology in pedagogy.

Conservation

These changes are sometimes met with opposition and a desire to preserve the existing situation before the pandemic: 'There were many lecturers who said: We don't understand... Why do we need it? We've worked very well until now...It's often accompanied by antagonism. Because people are mentally fixated, they don't like change.' (Interviewee 1, college 8). The opposition also stems from the increasing demands placed on the lecturers:

Our lecturers live in a world that places multiple demands on them – to be excellent, with service orientation, hold positions at the college and at the same time publish, publish, and publish [articles, books]. With all this, to come and tell them 'now we're moving to online courses that integrate technologies, it's not easy to get people out of their comfort zone. Interviewee 1, college 4).

One interviewee describes a complex situation: 'We have 250 lecturers, some of whom don't know how to hold a mouse. Some are older people who need guidance' (Interviewee 1, college 8).

Another describes the traditional teaching that has become established:

But if you open the door in any college lecture room, many times you'll see a lecturer standing and talking for an hour and a half. They know how to do it beautifully, but they still stand and talk. Now they do it on Zoom (Interviewee 2, college 9).

The shift to online learning due to the Covid-19 was perceived with ambivalence, on one hand as an opportunity for growth, but on the other, as a crisis.

BETWEEN CRISIS AND GROWTH

The Covid-19 pandemic is perceived as a deep crisis on the one hand, and as a challenge and an opportunity for change and growth on the other. Thus, while most of the interviewees perceive the pandemic as an opportunity for growth (19/25), some still remained focused on the crisis and the difficulties that emerged in its wake (6/25).

Growth

Most of the interviewees viewed the crisis as a window of opportunity for growth and change, even though it was imposed: 'I see it [Covid-19] as an opportunity to destroy the education system and build something new. I call it a challenge and an opportunity for renewed growth' (Interviewee 1, college 11). Another states: 'It simply forces us to reinvent ourselves as teachers' (Interviewee 1, college 10). The opportunity also lies in using technology in teacher training: As Interviewee 1, college 9 stated: 'We tried in the past to create courses on online learning... hardly anyone came. Once Covid-19 came, all of a sudden, everyone jumped into the deep end and learned a great many new tools.'

Interviewee 2, college 11 explained that his college had even tried in the past to use technology in courses, without much success, but the Covid-19 was an opportunity for change:

Corona was a tremendous opportunity, and what I am going to do now is to make sure that we don't miss that opportunity. I do not let it melt, to go back into the low standard routine. This is something I try very hard not to get lost in these times.

Crisis

In contrast, some participants describe the Covid-19 as a crisis: 'jumping into the deep end'. They use words like 'paralysis' and 'struggle', and as one said: 'we shifted to putting out fires'. In other words, the goal was to 'keep our head above water', i.e., to survive (Interviewee 2, college 5). Another describes it thus: 'we were all paralyzed at first... we struggle with it. I too struggle with it. It's an extraordinary challenge' (Interviewee 1, college 3). Maybe it changed later on as one interviewee used the phrase 'our real world after Covid-19' (Interviewee 1, college 5), i.e., this is a very challenging period, but it is not the real world. Her words imply that the 'real world' will be restored after the pandemic.

DISCUSSION

The challenge posed by the Covid-19 pandemic to colleges of education, where senior academic staff set guidelines on how to address it, has been unique in its urgency, scope, and intensity (Karakose, Ozdemir, et al., 2022; Karakose, Yirci, & Papadakis, 2022; Teräs et al., 2020). As Churchill said, "Never waste a good crisis", meaning that these challenges can also be viewed as an opportunity for profound changes and for strengthening educational processes.

The present study focused on senior academic staff from colleges of education in Israel and examined their perceptions regarding the integration of technology in teacher teaching, and the shift to online learning during the Covid-19 pandemic. Analysis of the study findings reveals a central concept, "on both sides of the divide", a thematic framework expressing the notion of "two opposing perspectives", contrast and contradiction between the opposing perceptions of senior academic staff, as well as the points of intersection between them. Thus, the theme expresses the central idea around which additional themes are organized: "between top-down and bottom-up policies", "between innovation and conservation", and "between crisis and growth".

The first theme reflects how senior academic staff describe their policies and vision associated with integrating technologies: between policies imposed top-down and bottom-up initiatives, or a combination of the two. This became increasingly acute as a basis for the rapid shift to online learning at the start of the pandemic. In this regard, Fullan (1994) proposes a coordinated combination of top-down and bottom-up strategies by means of dialogic thinking that takes into account the institution's unique educational needs and expert knowledge. For example, Reid (2014) relates to importance of the role of policymaker in implementing technology by setting a clear vision, leadership, and faculty participation that reflect their understanding the complexities of the technologies, or the time needed to master them by creating common goals for cooperation between faculty staff and policymakers. This is a kind of 'coincidence of wants': on the one hand, a desire to implement college policy involving digital technologies in teacher training, especially during the pandemic and the shift to online learning. In other words, it was essential to go beyond emergency online practices creating quality online teaching and learning that result from careful instructional design and planning (Hodges et al., 2020). This duality manifests in the tension between the policymakers' aspirations for innovation and the forces of conservation.

The second theme, "between innovation and conservation", reflects the duality between the aspiration to implement technological tools in teacher education and institutionalized conservatism. The participants describe the efforts invested at their college in implementing technology, e.g., establishing innovation centers, integrating virtual reality tools, augmented reality, and robotics in teacher training. However, despite these efforts, the desired change in teaching and learning has not been fully achieved, and traditional teaching is still prevalent. Similarly, the literature shows that use of digi-

tal technologies in classrooms is still far from producing systemic change, and describes disappointment in their implementation (Cuban et al., 2001; Hattie, 2008). This is one of the most pronounced manifestations in the institutional environment, i.e., development of technical processes associated with promoting teaching and learning, along with symbolic aspects that address environmental expectations, even when they do not directly contribute to teacher education (Hoy & Miskel, 2001; Meyer & Rowan, 1977).

The third theme, “between crisis and growth”, expresses the duality in the perceptions of senior academic staff regarding the Covid-19 pandemic. The majority perceive the pandemic as an opportunity, but some experience it as a crisis, employing terms such as “struggle” and “paralysis”, perhaps as a temporary feeling. According to Teräs et al. (2020) the use of technology during the pandemic facilitated continuity of learning. For example, all the interviewees relate to Zoom as the main technology to use for online learning, even though it was not designed for academic purposes. It seems that none of the senior academic staff relate to the decisions to choose Zoom as their main for teaching-learning platform. Perhaps because this started as an obvious short-term solution, which in some cases, created new challenges and exacerbated or imposed deeper societal problems for education and needed further careful consideration. The first theme indicates that in times of crisis, the polarity surrounding issues essential for the organization’s operation is reduced, and a blend is formed between the poles to create a new reality in which there is a combination of the various dichotomies. According to Darling-Hammond et al. (2017), this moment of 'disruption' has presented an opportunity for rethinking and reinventing teacher education. Regarding the three themes, the 'disruption' in teacher education as a consequence of the Covid-19 pandemic highlighted the importance of establishing open discourse and collaboration between the various college stakeholders. Facilitating open discussion of perceptions constituted a foundation for stronger bridge-building between academic staff, policymakers, preservice teachers and external stakeholders.

Figure 1 describes the central concept: “on both sides of the divide” and the connection to the three themes: 1) “between bottom-up initiatives and top-down policies”; 2) “between innovation and conservation”, and 3) “between crisis and growth”. Presenting these as a possible way of bridging and establishing open discourse and collaboration between the senior academic staff and other college stakeholders.

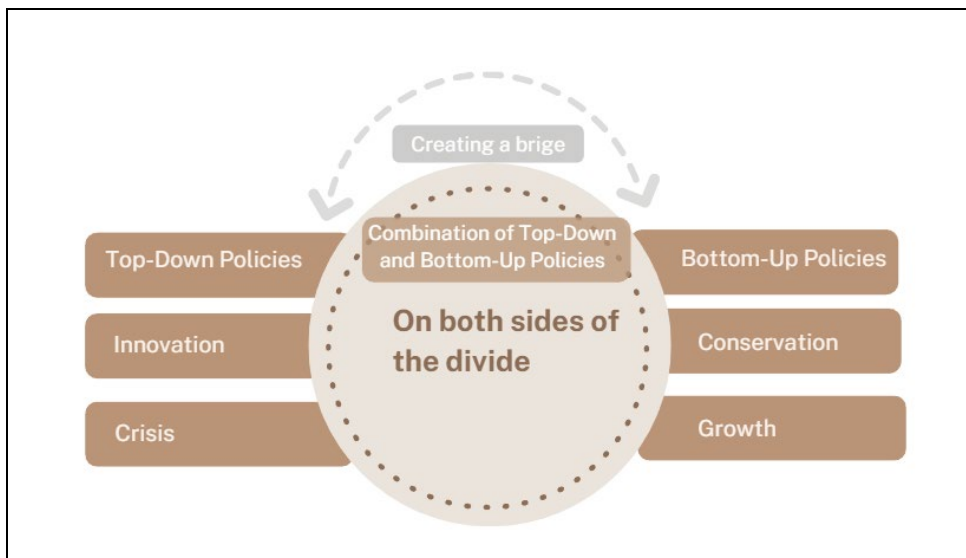


Figure 1: The themes and their connection to the central concept

CONCLUSION

The outbreak of the Covid-19 pandemic, led to the sudden adoption of online learning that has been termed disruptive in that it drastically disturbed colleges of education in Israel and elsewhere. The shift involved the immediate uptake of unfamiliar technological innovations, such as the Zoom platform that had not been designed for use in an educational context (Donitsa-Schmidt & Ramot 2020). Senior academic college staff played a particularly important role in leading the sudden shift to online learning within their respective institutions.

The aim of the present study is to examine the perceptions of senior academic staff in colleges of education, regarding the integration of technology in teacher training in general, and the shift to online teaching-learning during pandemic. The research results represent the challenges that reflect the ongoing attempts to negotiate and reconcile different concerns. Furthermore, the disruptive period can be viewed as an opportunity to establish policy based on combining top-down policies and bottom-up initiatives through a process of dialogic thinking. This may lead to substantial participation of staff member at the colleges of education, such as the teacher educators. This is an opportunity for the academic staff, rather than college officials, to lead a process of implementing technopedagogical tools using innovation-oriented teaching methods. This could be a turning point for handling crises and challenges, creating a path for growth.

PRACTICAL IMPLICATIONS AND FURTHER RESEARCH

Based on our results and the theoretical implications, the study has practical implications for the scope of discussions on the implementation of technology in teacher education in Israel (formulating a vision and policies, and their translation into practice), suggesting that such discussions should consider the perceptions of policymakers in the colleges with regard to their important role.

Each of the themes reflect the perception of senior academic staff at the time of their interview. All colleges campuses in Israel remained closed for the entire academic year. Therefore, it is important to conduct further research in the post-pandemic period to understand whether there has been any change in the perceptions of senior academic staff in colleges of education on the issues studied here. Perhaps over time, these and other colleges have been able to enact their vision for equity-based educator preparation, having progressed from crisis management to growth and transformation.

Future research could reveal a more complete picture by investigating a broad spectrum of stakeholders in the colleges of education such as in Israel and elsewhere. It would also be interesting to research the differences among senior academic staff regarding their different position at their colleges of education and the stages of their career.

Hence, future research should examine the power relations between senior college staff and external entities such as the Higher Education Council (the body responsible for outlining higher education policies in Israel).

RESEARCH LIMITATIONS

The study focuses only senior academic staff from academic colleges of education in Israel, so that the specific Israeli context might impair generalizability of the findings. Another limitation is the small number of male participants, smaller than their representation among senior academic staff at colleges of education in Israel.

Regarding the findings, each of the themes reflect the perception of senior academic staff at the time of their interview. It is possible that if we had revisited the interviewees later on period during the Covid-19 restrictions they might have gained more experience in handling the crisis and had an opportunity to move from Crisis to Growth.

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DATA AVAILABILITY

The datasets are not publicly available due to participant privacy but are available from the corresponding author on reasonable request.

DISCLOSURE STATEMENT

The authors report there are no competing interests to declare.

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APPENDIX

INTERVIEW OUTLINE

- (1) What is your position regarding the integration of technology in teacher training?
- (2) How did the Covid-19 pandemic and the shift to online learning and to technologies for online learning affect the college? Give details and examples.
- (3) What is your position regarding the shift to online learning relying on technology for the purpose of teacher training during the pandemic relate to your perceptions, difficulties, and opportunities?
- (4) Describe how was the shift to online learning and learning via technology from your perspective of sensations, feelings, discoveries, particularly changes and difficulties, and talk about experiences.
- (5) In your view, have changes occurred in teacher training as a result of the shift to online learning? Explain in which areas.
- (6) How did the pandemic and the shift to online learning and to technologies for online learning affect the college? Give details and examples.
- (7) How has the Covid-19 period influenced your self-perception as a senior academic staff member in your college?
- (8) Do you have anything you would like to add?

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